Erin L Ratcliff

List of Publications by Year
in descending order

73 papers	3,998 citations	159585 30 h-index	114465 63 g-index
74 all docs	74 docs citations	74 times ranked	5768 citing authors

#	Article	IF	Citations
1	Rationalizing energy level alignment by characterizing Lewis acid/base and ionic interactions at printable semiconductor/ionic liquid interfaces. Materials Horizons, 2022, 9, 471-481.	12.2	3
2	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2022, 375, 71-76.	12.6	216
3	High-performance methylammonium-free ideal-band-gap perovskite solar cells. Matter, 2021, 4, 1365-1376.	10.0	51
4	A Multi-modal Approach to Understanding Degradation of Organic Photovoltaic Materials. ACS Applied Materials & Interfaces, 2021, 13, 44641-44655.	8.0	2
5	Defect quantification in metal halide perovskites: the solid-state electrochemical alternative. Energy and Environmental Science, 2021, 14, 4840-4846.	30.8	6
6	Tuning Organic Electrochemical Transistor (OECT) Transconductance toward Zero Gate Voltage in the Faradaic Mode. ACS Applied Materials & Interfaces, 2021, 13, 50176-50186.	8.0	13
7	Zinc Oxide-Perylene Diimide Hybrid Electron Transport Layers for Air-Processed Inverted Organic Photovoltaic Devices. ACS Applied Materials & Interfaces, 2021, 13, 49096-49103.	8.0	18
8	Metastable Dion-Jacobson 2D structure enables efficient and stable perovskite solar cells. Science, 2021, , eabj2637.	12.6	2
9	Enhanced Infrared Photodiodes Based on PbS/PbCl_{<i>x</i>} Core/Shell Nanocrystals. ACS Applied Materials & Interfaces, 2021, 13, 58916-58926.	8.0	2
10	Thermally Induced Formation of HF₄TCNQ^{â€“} in F₄TCNQ-Doped Regioregular P3HT. Journal of Physical Chemistry Letters, 2020, 11, 6586-6592.	4.6	13
11	Ion diffusion coefficients in poly(3-alkylthiophenes) for energy conversion and biosensing: role of side-chain length and microstructure. Journal of Materials Chemistry C, 2020, 8, 13319-13327.	5.5	14
12	Slot-Die-Coated Ternary Organic Photovoltaics for Indoor Light Recycling. ACS Applied Materials & Interfaces, 2020, 12, 43684-43693.	8.0	25
13	Overcoming Redox Reactions at Perovskite-Nickel Oxide Interfaces to Boost Voltages in Perovskite Solar Cells. Joule, 2020, 4, 1759-1775.	24.0	284
14	Impact of Self-Assembled Monolayer Design and Electrochemical Factors on Impedance-Based Biosensing. Sensors, 2020, 20, 2246.	3.8	26
15	Surface-Activated Corrosion in Tinâ€“Lead Halide Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 3344-3351.	17.4	55
16	Self-Assembled Monolayers for Anti-Fouling and Highly Selective Electrode Interfaces. ECS Meeting Abstracts, 2020, MA2020-01, 2420-2420.	0.0	0
17	Stability of pushâ€“pull small molecule donors for organic photovoltaics: spectroscopic degradation of acceptor endcaps on benzo[1,2-<i>b</i>:4,5-<i>b</i>â€²]dithiophene cores. Journal of Materials Chemistry A, 2019, 7, 19984-19995.	10.3	4
18	Intersystem Subpopulation Charge Transfer and Conformational Relaxation Preceding <i>in Situ</i> Conductivity in Electrochemically Doped Poly(3-hexylthiophene) Electrodes. Chemistry of Materials, 2019, 31, 6870-6879.	6.7	21

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19	Stability of Charge Transfer States in F₄TCNQ-Doped P3HT. Chemistry of Materials, 2019, 31, 6986-6994.	6.7	54
20	Nanoscale Visualization and Multiscale Electrochemical Analysis of Conductive Polymer Electrodes. ACS Nano, 2019, 13, 13271-13284.	14.6	47
21	Microstructure-dependent electrochemical properties of chemical-vapor deposited poly(3,4-ethylenedioxythiophene) (PEDOT) films. Synthetic Metals, 2019, 253, 26-33.	3.9	16
22	High-Throughput Experimental Study of Wurtzite Mn1â€“xZnxO Alloys for Water Splitting Applications. ACS Omega, 2019, 4, 7436-7447.	3.5	5
23	Approaching single molecule sensing: predictive sweat sensor design for ultra-low limits of detection. , 2019, , .		1
24	Predicting limits of detection in real-time sweat-based human performance monitoring. , 2019, , .		0
25	Printable transistors for wearable sweat sensing. , 2019, , .		2
26	Correlation of Coexistent Charge Transfer States in F₄TCNQ-Doped P3HT with Microstructure. Journal of Physical Chemistry Letters, 2018, 9, 6871-6877.	4.6	65
27	Controlling the Kinetics of Charge Transfer at Conductive Polymer/Liquid Interfaces through Microstructure. Journal of Physical Chemistry C, 2018, 122, 21210-21215.	3.1	16
28	Energy Level Alignment of Molybdenum Oxide on Colloidal Lead Sulfide (PbS) Thin Films for Optoelectronic Devices. ACS Applied Materials & Interfaces, 2018, 10, 24981-24986.	8.0	3
29	Critical Interface States Controlling Rectification of Ultrathin NiOâ€“ZnO pâ€“n Heterojunctions. ACS Applied Materials & Interfaces, 2017, 9, 31111-31118.	8.0	12
30	Metal Oxide Heterointerfaces in Hybrid Electronic Platforms. Advanced Materials, 2016, 28, 3801-3801.	21.0	1
31	Introduction: Electronic Materials. Chemical Reviews, 2016, 116, 12821-12822.	47.7	2
32	Influence of Backbone Fluorination in Regioregular Poly(3-alkyl-4-fluoro)thiophenes. Journal of the American Chemical Society, 2015, 137, 6866-6879.	13.7	211
33	Influence of Molecular Orientation on Charge-Transfer Processes at Phthalocyanine/Metal Oxide Interfaces and Relationship to Organic Photovoltaic Performance. Journal of Physical Chemistry C, 2015, 119, 10304-10313.	3.1	28
34	Integrating theory, synthesis, spectroscopy and device efficiency to design and characterize donor materials for organic photovoltaics: a case study including 12 donors. Journal of Materials Chemistry A, 2015, 3, 9777-9788.	10.3	15
35	Nickel oxide interlayer films from nickel formateâ€“ethylenediamine precursor: influence of annealing on thin film properties and photovoltaic device performance. Journal of Materials Chemistry A, 2015, 3, 10949-10958.	10.3	45
36	Quantifying the Extent of Contact Doping at the Interface between High Work Function Electrical Contacts and Poly(3-hexylthiophene) (P3HT). Journal of Physical Chemistry Letters, 2015, 6, 1303-1309.	4.6	40

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37	Contactâ€Induced Mechanisms in Organic Photovoltaics: A Steadyâ€State and Transient Study. Advanced Energy Materials, 2015, 5, 1400549.	19.5	16
38	Chemically Controlled Reversible and Irreversible Extraction Barriers Via Stable Interface Modification of Zinc Oxide Electron Collection Layer in Polycarbazoleâ€based Organic Solar Cells. Advanced Functional Materials, 2014, 24, 4671-4680.	14.9	76
39	Modification of the Galliumâ€Doped Zinc Oxide Surface with Selfâ€Assembled Monolayers of Phosphonic Acids: A Joint Theoretical and Experimental Study. Advanced Functional Materials, 2014, 24, 3593-3603.	14.9	31
40	Systematic electrochemical oxidative doping of P3HT to probe interfacial charge transfer across polymerâ€“fullerene interfaces. Journal of Materials Chemistry A, 2014, 2, 19221-19231.	10.3	29
41	Semi-random vs Well-Defined Alternating Donorâ€“Acceptor Copolymers. ACS Macro Letters, 2014, 3, 622-627.	4.8	27
42	Formation of interfacial traps upon surface protonation in small molecule solution processed bulk heterojunctions probed by photoelectron spectroscopy. Journal of Materials Chemistry C, 2013, 1, 6223.	5.5	31
43	Orientation of Phenylphosphonic Acid Self-Assembled Monolayers on a Transparent Conductive Oxide: A Combined NEXAFS, PM-IRRAS, and DFT Study. Langmuir, 2013, 29, 2166-2174.	3.5	61
44	Investigating the Influence of Interfacial Contact Properties on Open Circuit Voltages in Organic Photovoltaic Performance: Work Function Versus Selectivity. Advanced Energy Materials, 2013, 3, 647-656.	19.5	122
45	Highlyâ€Tunable Nickel Cobalt Oxide as a Lowâ€Temperature Pâ€Type Contact in Organic Photovoltaic Devices. Advanced Energy Materials, 2013, 3, 524-531.	19.5	38
46	Deciphering the Metal-C₆₀ Interface in Optoelectronic Devices: Evidence for C₆₀ Reduction by Vapor Deposited Al. ACS Applied Materials & Interfaces, 2013, 5, 6001-6008.	8.0	21
47	Energy Level Alignment and Morphology of Ag and Au Nanoparticle Recombination Contacts in Tandem Planar Heterojunction Solar Cells. Journal of Physical Chemistry C, 2013, 117, 22331-22340.	3.1	10
48	Understanding energy level alignment in PCDTBT:PC<inf>70</inf>BM solar cells. , 2012, , .		0
49	Electron-Transfer Processes in Zinc Phthalocyanineâ€“Phosphonic Acid Monolayers on ITO: Characterization of Orientation and Charge-Transfer Kinetics by Waveguide Spectroelectrochemistry. Journal of Physical Chemistry Letters, 2012, 3, 1154-1158.	4.6	33
50	Improvement of Interfacial Contacts for New Smallâ€Molecule Bulkâ€Heterojunction Organic Photovoltaics. Advanced Materials, 2012, 24, 5368-5373.	21.0	132
51	Built-In Potential in Conjugated Polymer Diodes with Changing Anode Work Function: Interfacial States and Deviation from the Schottkyâ€“Mott Limit. Journal of Physical Chemistry Letters, 2012, 3, 1202-1207.	4.6	50
52	Sputtered nickel oxide thin film for efficient hole transport layer in polymerâ€“fullerene bulk-heterojunction organic solar cell. Thin Solid Films, 2012, 520, 3813-3818.	1.8	40
53	Surface composition, work function, and electrochemical characteristics of gallium-doped zinc oxide. Thin Solid Films, 2012, 520, 5652-5663.	1.8	27
54	Energy level alignment in PCDTBT:PC70BM solar cells: Solution processed NiOx for improved hole collection and efficiency. Organic Electronics, 2012, 13, 744-749.	2.6	135

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55	Evidence for near-Surface NiOOH Species in Solution-Processed NiO_{<i>x</i>} Selective Interlayer Materials: Impact on Energetics and the Performance of Polymer Bulk Heterojunction Photovoltaics. Chemistry of Materials, 2011, 23, 4988-5000.	6.7	343
56	Selective Interlayers and Contacts in Organic Photovoltaic Cells. Journal of Physical Chemistry Letters, 2011, 2, 1337-1350.	4.6	300
57	Phosphonic Acid Functionalized Asymmetric Phthalocyanines: Synthesis, Modification of Indium Tin Oxide, and Charge Transfer. Langmuir, 2011, 27, 14900-14909.	3.5	28
58	Enhanced Efficiency in Plastic Solar Cells via Energy Matched Solution Processed NiO_x Interlayers. Advanced Energy Materials, 2011, 1, 813-820.	19.5	299
59	The interface science of interlayer materials and contacts in organic solar cells. , 2011, , .		0
60	Work function control of hole-selective polymer/ITO anode contacts: an electrochemical doping study. Journal of Materials Chemistry, 2010, 20, 2672.	6.7	55
61	Ferrocene Functional Polymer Brushes on Indium Tin Oxide via Surface-Initiated Atom Transfer Radical Polymerization. Langmuir, 2010, 26, 2083-2092.	3.5	73
62	A Planar, Chip-Based, Dual-Beam Refractometer Using an Integrated Organic Light-Emitting Diode (OLED) Light Source and Organic Photovoltaic (OPV) Detectors. Analytical Chemistry, 2010, 82, 2734-2742.	6.5	35
63	Waveguide-Based Chemical and Spectroelectrochemical Sensor Platforms. ECS Transactions, 2009, 19, 109-117.	0.5	1
64	Organic/Organicâ€² Heterojunctions: Organic Light Emitting Diodes and Organic Photovoltaic Devices. Macromolecular Rapid Communications, 2009, 30, 717-731.	3.9	183
65	Macromol. Rapid Commun. 9â€"10/2009. Macromolecular Rapid Communications, 2009, 30, .	3.9	1
66	Oxide Contacts in Organic Photovoltaics: Characterization and Control of Near-Surface Composition in Indiumâˆ'Tin Oxide (ITO) Electrodes. Accounts of Chemical Research, 2009, 42, 1748-1757.	15.6	167
67	Colloidal Polymerization of Polymer-Coated Ferromagnetic Nanoparticles into Cobalt Oxide Nanowires. ACS Nano, 2009, 3, 3143-3157.	14.6	164
68	Organic/Organicâ€² Heterojunctions: Organic Light Emitting Diodes and Organic Photovoltaic Devices. , 2009, 30, 717.		1
69	Electrodeposited, â€œTexturedâ€• Poly(3-hexyl-thiophene) (e-P3HT) Films for Photovoltaic Applications. Chemistry of Materials, 2008, 20, 5796-5806.	6.7	91
70	Photovoltaic devices created from electrodeposited nano-textured poly(thiophene) films. Proceedings of SPIE, 2008, , .	0.8	1
71	Directed Electrodeposition of Polymer Films Using Spatially Controllable Electric Field Gradients. Langmuir, 2007, 23, 9905-9910.	3.5	16
72	Scanning Electrochemical Mapping of Spatially Localized Electrochemical Reactions Induced by Surface Potential Gradients. Langmuir, 2006, 22, 10322-10328.	3.5	13

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73	Rapid and Reversible Generation of a Microscale pH Gradient Using Surface Electric Fields. Analytical Chemistry, 2005, 77, 6487-6493.	6.5	27