Guanghao Lu

List of Publications by Year
in descending order

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105	4,760	117625	106344
papers	citations	34 h-index	65 g-index

112	112	112	4003
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Binary Organic Solar Cells Breaking 19% via Manipulating the Vertical Component Distribution. Advanced Materials, 2022, 34, .	21.0	384
2	Effect of Isomerization on High-Performance Nonfullerene Electron Acceptors. Journal of the American Chemical Society, 2018, 140, 9140-9147.	13.7	361
3	Moderate doping leads to high performance of semiconductor/insulator polymer blend transistors. Nature Communications, 2013, 4, 1588.	12.8	240
4	Optimized active layer morphology toward efficient and polymer batch insensitive organic solar cells. Nature Communications, 2020, 11, 2855.	12.8	237
5	Improving performance of polymer photovoltaic devices using an annealing-free approach via construction of ordered aggregates in solution. Journal of Materials Chemistry, 2008, 18, 1984.	6.7	235
6	Balancing the efficiency, stability, and cost potential for organic solar cells via a new figure of merit. Joule, 2021, 5, 1209-1230.	24.0	138
7	Precise construction of PCBM aggregates for polymer solar cellsvia multi-step controlled solvent vapor annealing. Journal of Materials Chemistry, 2010, 20, 683-688.	6.7	130
8	Regulating the vertical phase distribution by fullerene-derivative in high performance ternary organic solar cells. Nano Energy, 2018, 46, 81-90.	16.0	129
9	Achieving Perpendicular Alignment of Rigid Polythiophene Backbones to the Substrate by Using Solventâ€Vapor Treatment. Advanced Materials, 2007, 19, 3594-3598.	21.0	125
10	Vertically optimized phase separation with improved exciton diffusion enables efficient organic solar cells with thick active layers. Nature Communications, 2022, 13, 2369.	12.8	122
11	Fibril Network Strategy Enables Highâ€Performance Semitransparent Organic Solar Cells. Advanced Functional Materials, 2020, 30, 2002181.	14.9	113
12	Dual-Accepting-Unit Design of Donor Material for All-Small-Molecule Organic Solar Cells with Efficiency Approaching 11%. Chemistry of Materials, 2018, 30, 8661-8668.	6.7	101
13	Enhanced Electrical Conductivity of Highly Crystalline Polythiophene/Insulating-Polymer Composite. Macromolecules, 2007, 40, 6579-6584.	4.8	86
14	Morphology and Crystalline Transition of Poly(3-butylthiophene) Associated with Its Polymorphic Modifications. Macromolecules, 2008, 41, 2062-2070.	4.8	82
15	Separating Crystallization Process of P3HT and Oâ€IDTBR to Construct Highly Crystalline Interpenetrating Network with Optimized Vertical Phase Separation. Advanced Functional Materials, 2019, 29, 1807591.	14.9	82
16	Filmâ€Depthâ€Dependent Light Absorption and Charge Transport for Polymer Electronics: A Case Study on Semiconductor/Insulator Blends by Plasma Etching. Advanced Electronic Materials, 2016, 2, 1600359.	5.1	74
17	Layer-by-layer processed binary all-polymer solar cells with efficiency over 16% enabled by finely optimized morphology. Nano Energy, 2022, 93, 106858.	16.0	71
18	Selfâ€Powered Organic Photodetectors with High Detectivity for Near Infrared Light Detection Enabled by Dark Current Reduction. Advanced Functional Materials, 2021, 31, 2106326.	14.9	70

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19	Creating a Uniform Distribution of Fullerene C₆₀ Nanorods in a Polymer Matrix and its Photovoltaic Applications. Small, 2008, 4, 601-606.	10.0	69
20	Dark Current Reduction Strategy via a Layer-By-Layer Solution Process for a High-Performance All-Polymer Photodetector. ACS Applied Materials & Interfaces, 2019, 11, 8350-8356.	8.0	64
21	Bulk Interpenetration Network of Thermoelectric Polymer in Insulating Supporting Matrix. Advanced Materials, 2014, 26, 2359-2364.	21.0	63
22	Enhancing the Photovoltaic Performance via Vertical Phase Distribution Optimization in Small Molecule:PC₇₁BM Blends. Advanced Energy Materials, 2017, 7, 1701548.	19.5	57
23	Enhanced Charge Transportation in Semiconducting Polymer/Insulating Polymer Composites: The Role of an Interpenetrating Bulk Interface. Advanced Functional Materials, 2010, 20, 1714-1720.	14.9	56
24	Nonhalogenated Dualâ€Slotâ€Die Processing Enables Highâ€Efficiency Organic Solar Cells. Advanced Materials, 2022, 34, .	21.0	56
25	Effects of fullerene solubility on the crystallization of poly(3-hexylthiophene) and performance of photovoltaic devices. Organic Electronics, 2009, 10, 1334-1344.	2.6	52
26	Versatile Sequential Casting Processing for Highly Efficient and Stable Binary Organic Photovoltaics. Advanced Materials, 2022, 34, .	21.0	52
27	Regulating the phase separation of ternary organic solar cells via 3D architectured AIE molecules. Nano Energy, 2020, 68, 104271.	16.0	47
28	Film-depth-dependent crystallinity for light transmission and charge transport in semitransparent organic solar cells. Journal of Materials Chemistry A, 2020, 8, 401-411.	10.3	45
29	Delicate crystallinity control enables high-efficiency P3HT organic photovoltaic cells. Journal of Materials Chemistry A, 2022, 10, 3418-3429.	10.3	45
30	Printing Semiconductorâ€“Insulator Polymer Bilayers for Highâ€Performance Coplanar Fieldâ€Effect Transistors. Advanced Materials, 2018, 30, 1704695.	21.0	43
31	Correlations between Performance of Organic Solar Cells and Filmâ€Depthâ€Dependent Optical and Electronic Variations. Advanced Optical Materials, 2019, 7, 1900152.	7.3	43
32	High-performance all-small-molecule organic solar cells without interlayers. Energy and Environmental Science, 2021, 14, 3174-3183.	30.8	43
33	A Topâ€Down Strategy to Engineer ActiveLayer Morphology for Highly Efficient and Stable Allâ€Polymer Solar Cells. Advanced Materials, 2022, 34, .	21.0	41
34	Double doping approach for unusually stable and large n-type thermoelectric voltage from p-type multi-walled carbon nanotube mats. Journal of Materials Chemistry A, 2020, 8, 13095-13105.	10.3	40
35	PEDOT:PSSâ€Free Polymer Nonâ€Fullerene Polymer Solar Cells with Efficiency up to 18.60% Employing a Binaryâ€Solventâ€Chlorinated ITO Anode. Advanced Functional Materials, 2021, 31, 2106846.	14.9	40
36	Nanoscale Phase-Aggregation-Induced Performance Improvement of Polymer Solar Cells. Small, 2007, 3, 611-615.	10.0	38

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37	â€œTwistedâ€•conjugated molecules as donor materials for efficient all-small-molecule organic solar cells processed with tetrahydrofuran. Journal of Materials Chemistry A, 2019, 7, 23008-23018.	10.3	37
38	A Sequential Slotâ€Die Coated Ternary System Enables Efficient Flexible Organic Solar Cells. Solar Rrl, 2019, 3, 1800333.	5.8	37
39	Achieving over 18â€‰% Efficiency Organic Solar Cell Enabled by a ZnOâ€Based Hybrid Electron Transport Layer with an Operational Lifetime up to 5â€…Years. Angewandte Chemie - International Edition, 2022, 61, .	13.8	36
40	Influence of fluorination on the properties and performance of isoindigoâ€“quaterthiophene-based polymers. Journal of Materials Chemistry A, 2016, 4, 5039-5043.	10.3	35
41	Vertical Miscibility of Bulk Heterojunction Films Contributes to High Photovoltaic Performance. Advanced Materials Interfaces, 2020, 7, 2000577.	3.7	33
42	Baseplate Temperatureâ€Dependent Vertical Composition Gradient in Pseudoâ€Bilayer Films for Printing Nonâ€Fullerene Organic Solar Cells. Advanced Energy Materials, 2021, 11, 2102135.	19.5	33
43	A novel melting behavior of poly(3-alkylthiophene) cocrystals: premelting and recrystallization of component polymers. Polymer Chemistry, 2012, 3, 3301.	3.9	32
44	Soluble poly(4-fluorostyrene): a high-performance dielectric electret for organic transistors and memories. Materials Horizons, 2020, 7, 1861-1871.	12.2	32
45	Epitaxy-Assisted Creation of PCBM Nanocrystals and Its Application in Constructing Optimized Morphology for Bulk-Heterojunction Polymer Solar Cells. Journal of Physical Chemistry B, 2008, 112, 15651-15658.	2.6	30
46	Significant enhancement of responsivity of organic photodetectors upon molecular engineering. Journal of Materials Chemistry C, 2019, 7, 5739-5747.	5.5	28
47	Layer-by-layer slot-die coated high-efficiency organic solar cells processed using twin boiling point solvents under ambient condition. Nano Research, 2021, 14, 4236-4242.	10.4	28
48	H-Aggregated Form II Spherulite of Poly(3-butylthiophene) Grown from Solution. ACS Macro Letters, 2012, 1, 1274-1278.	4.8	27
49	Aligned Polythiophene and its Blend Film by Directâ€Writing for Anisotropic Charge Transport. Advanced Functional Materials, 2014, 24, 4959-4968.	14.9	26
50	In-situ tuning threshold voltage of field-effect transistors based on blends of poly(3-hexylthiophene) with an insulator electret. Applied Physics Letters, 2015, 107, .	3.3	24
51	Efficient and mechanically-robust organic solar cells based on vertical stratification modulation through sequential blade-coating. Nano Energy, 2022, 97, 107194.	16.0	24
52	Constructing Thin Polythiophene Film Composed of Aligned Lamellae via Controlled Solvent Vapor Treatment. Langmuir, 2009, 25, 3763-3768.	3.5	22
53	Suppressing trap states and energy loss by optimizing vertical phase distribution through ternary strategy in organic solar cells. Science China Chemistry, 2021, 64, 599-607.	8.2	22
54	Critical Role of Vertical Phase Separation in Small-Molecule Organic Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 12913-12920.	8.0	21

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55	Highâ€Performance Nonfullerene Organic Solar Cells with Unusual Inverted Structure. Solar Rrl, 2020, 4, 2000115.	5.8	21
56	Allâ€Smallâ€Molecule Organic Solar Cells with Efficiency Approaching 16% and FF over 80%. Small, 2022, 18, e2201400.	10.0	21
57	Dualâ€Characteristic Transistors Based on Semiconducting Polymer Blends. Advanced Electronic Materials, 2016, 2, 1600267.	5.1	20
58	Manipulating Transistor Operation via Nonuniformly Distributed Charges in a Polymer Insulating Electret Layer. Physical Review Applied, 2016, 6, .	3.8	19
59	Integrated Perovskite/Organic Photovoltaics with Ultrahigh Photocurrent and Photoresponse Approaching 1000â€‰nm. Solar Rrl, 2020, 4, 2000140.	5.8	19
60	Progress in polymer solar cell. Science Bulletin, 2007, 52, 145-158.	1.7	18
61	Semitransparent Flexible Organic Solar Cells. Chemical Research in Chinese Universities, 2020, 36, 343-350.	2.6	18
62	Organic-semiconductor: Polymer-electret blends for high-performance transistors. Nano Research, 2018, 11, 5835-5848.	10.4	17
63	Dopant/Semiconductor/Electret Trilayer Architecture for Highâ€Performance Organic Fieldâ€Effect Transistors. Advanced Electronic Materials, 2018, 4, 1800339.	5.1	17
64	Achieving High Doping Concentration by Dopant Vapor Deposition in Organic Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 4178-4184.	8.0	17
65	Verticalâ€Resolved Composition and Aggregation Gradient of Conjugatedâ€Polymer@Insulatorâ€Matrix for Transistors and Memory. Advanced Electronic Materials, 2020, 6, 1901156.	5.1	17
66	The Role of Morphology Control in Determining the Performance of P3HT/C-70 Bulk Heterojunction Polymer Solar Cells. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 1725-1731.	2.9	15
67	Giant Transconductance of Organic Field-Effect Transistors in Compensation Electric Fields. Physical Review Applied, 2018, 10, .	3.8	15
68	Probing film-depth-related light harvesting in polymer solar cells via plasma etching. AIP Advances, 2017, 7, .	1.3	15
69	Side-Chain Engineering of Polystyrene Dielectrics Toward High-Performance Photon Memories and Artificial Synapses. Chemistry of Materials, 2022, 34, 6505-6517.	6.7	15
70	Contrastive manipulations on vertical stratifications by a fluorescent guest component in ternary nonfullerene and fullerene organic solar cells. Chemical Engineering Journal, 2022, 450, 138018.	12.7	14
71	Manipulating Doping of Organic Semiconductors by Reactive Oxygen for Fieldâ€Effect Transistors. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800297.	2.4	13
72	Surface Etching of Polymeric Semiconductor Films Improves Environmental Stability of Transistors. Chemistry of Materials, 2021, 33, 2673-2682.	6.7	13

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73	Reconfigurable Multifunctional Ambipolar Polymerâ€Blend Transistors with Improved Switchingâ€Off Capability. Advanced Functional Materials, 2021, 31, 2103369.	14.9	13
74	Reconstructing Space- and Energy-Dependent Exciton Generation in Solution-Processed Inverted Organic Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 13741-13747.	8.0	12
75	In situ Measuring Film-Depth-Dependent Light Absorption Spectra for Organic Photovoltaics. Frontiers in Chemistry, 2020, 8, 211.	3.6	12
76	Trifluoro alkyl side chains in the non-fullerene acceptors to optimize the phase miscibility and vertical distribution of organic solar cells. Journal of Materials Chemistry A, 2022, 10, 8837-8845.	10.3	12
77	Tuning the Phase Separation by Thermal Annealing Enables High-Performance All-Small-Molecule Organic Solar Cells. Chemistry of Materials, 2022, 34, 3168-3177.	6.7	12
78	Efficient organic solar cells with the active layer fabricated from glovebox to ambient condition. Applied Physics Letters, 2020, 117, 133301.	3.3	11
79	Enhancing organic photovoltaic performance with 3D-transport dual nonfullerene acceptors. Journal of Materials Chemistry A, 2022, 10, 1948-1955.	10.3	11
80	Large interfacial area enhances electrical conductivity of poly(3-hexylthiophene)/insulating polymer blends. RSC Advances, 2015, 5, 1777-1784.	3.6	10
81	Rapidly Measuring Charge Carrier Mobility of Organic Semiconductor Films Upon a Point-Contact Four-Probes Method. IEEE Journal of the Electron Devices Society, 2019, 7, 303-308.	2.1	10
82	Highâ€Efficiency Organic Solar Cells with Wide Toleration of Active Layer Thickness. Solar Rrl, 2020, 4, 2000476.	5.8	10
83	Infrared spectroscopy depth profiling of organic thin films. Materials Horizons, 2021, 8, 1461-1471.	12.2	10
84	Enhanced Performance of Organic Field-Effect Transistors by a Molecular Dopant with High Electron Affinity. ACS Applied Materials & Interfaces, 2022, 14, 23709-23716.	8.0	10
85	Achieving over 18â€‰% Efficiency Organic Solar Cell Enabled by a ZnOâ€Based Hybrid Electron Transport Layer with an Operational Lifetime up to 5â€…Years. Angewandte Chemie, 2022, 134, .	2.0	10
86	Gate-voltage-dependent charge transport in multi-dispersed polymer thin films. Applied Physics Letters, 2017, 110, .	3.3	9
87	Light-assisted charge injection and depletion of insulator electrets for organic field-effect transistors. Journal of Materials Chemistry C, 2019, 7, 12862-12868.	5.5	9
88	Polymer Electret Improves the Performance of the Oxygen-Doped Organic Field-Effect Transistors. IEEE Electron Device Letters, 2020, 41, 1665-1668.	3.9	9
89	Interfacial strain driven magnetoelectric coupling in (111)-oriented self-assembled BiFeO3â€“CoFe2O4 thin films. Journal of Materials Chemistry C, 2020, 8, 3527-3535.	5.5	9
90	Interfacial Effect on Dielectric Properties of Selfâ€Assembled Polythioureaâ€Based Copolymers for Ultrahigh Energy Storage. Macromolecular Rapid Communications, 2022, 43, e2100700.	3.9	9

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91	Fingerprints of relaxor ferroelectrics: Characteristic hierarchical domain configurations and quantitative performances. Applied Materials Today, 2020, 21, 100789.	4.3	8
92	Filmâ€Depthâ€Dependent Light Reflection Spectroscopy for Photovoltaics and Transistors. Advanced Materials Interfaces, 2021, 8, 2101476.	3.7	8
93	Origin of superb electrical insulating capability of cellulose-liquid biphasic dielectrics by interfacial charge behaviors. Applied Physics Letters, 2020, 117, .	3.3	7
94	Top and bottom electrode optimization enabled high-performance flexible and semi-transparent organic solar cells. Materials Chemistry Frontiers, 2021, 5, 4310-4316.	5.9	7
95	Improving Charge Injection at Gold/Conjugated Polymer Contacts by Polymer Insulatorâ€Assisted Annealing for Transistors. Small, 2022, 18, e2105896.	10.0	7
96	Efficient All-Polymer Solar Cells with Sequentially Processed Active Layers. Polymers, 2022, 14, 2058.	4.5	6
97	Novel Morphology of Polyethylene Crystals Created upon Melt Crystallization of Spin-Coated Film. Macromolecules, 2008, 41, 1273-1280.	4.8	5
98	Ternary Donorâ€“Insulatorâ€“Acceptor Systems for Polymer Solar Cells. Macromolecular Rapid Communications, 2012, 33, 1882-1887.	3.9	4
99	Short-Term Master-Slave Forecast Method for Distributed Photovoltaic Plants Based on the Spatial Correlation. Mathematical Problems in Engineering, 2021, 2021, 1-13.	1.1	4
100	Rapid Charge Storage and Release at Etchingâ€Assist Electret in Organic Transistors for Memories, Photodetectors, and Artificial Synapses. Advanced Materials Interfaces, 2022, 9, .	3.7	3
101	Field-Effect Charge Transport in Doped Polymer Semiconductorâ€“Insulator Alternating Bulk Junctions with Ultrathin Transport Layers. ACS Applied Materials & Interfaces, 2018, 10, 39091-39099.	8.0	2
102	Electrochromism of Viologen/Polymer Composite: From Gel to Insulating Bulk for High-Voltage Applications. Materials, 2021, 14, 5901.	2.9	2
103	Spectroscopic depth profilometry of organic thin films upon inductively coupled plasma etching. Review of Scientific Instruments, 2022, 93, 073903.	1.3	2
104	Crystallization Control of N,Nâ€²-Dioctyl Perylene Diimide by Amphiphilic Block Copolymers Containing poly(3-Hexylthiophene) and Polyethylene Glycol. Frontiers in Chemistry, 2021, 9, 699387.	3.6	1
105	Organic Electronics: Bulk Interpenetration Network of Thermoelectric Polymer in Insulating Supporting Matrix (Adv. Mater. 15/2014). Advanced Materials, 2014, 26, 2447-2447.	21.0	0