

Lei Meng

List of Publications by Year in descending order

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68
papers

10,330
citations

76326

40
h-index

102487

66
g-index

68
all docs

68
docs citations

68
times ranked

10339
citing authors

#	ARTICLE	IF	CITATIONS
1	Improved air stability of perovskite solar cells via solution-processed metal oxide transport layers. <i>Nature Nanotechnology</i> , 2016, 11, 75-81.	31.5	1,890
2	Recent Advances in the Inverted Planar Structure of Perovskite Solar Cells. <i>Accounts of Chemical Research</i> , 2016, 49, 155-165.	15.6	559
3	High-efficiency robust perovskite solar cells on ultrathin flexible substrates. <i>Nature Communications</i> , 2016, 7, 10214.	12.8	534
4	Addressing the stability issue of perovskite solar cells for commercial applications. <i>Nature Communications</i> , 2018, 9, 5265.	12.8	527
5	Multifunctional Fullerene Derivative for Interface Engineering in Perovskite Solar Cells. <i>Journal of the American Chemical Society</i> , 2015, 137, 15540-15547.	13.7	490
6	Guanidinium: A Route to Enhanced Carrier Lifetime and Open-Circuit Voltage in Hybrid Perovskite Solar Cells. <i>Nano Letters</i> , 2016, 16, 1009-1016.	9.1	479
7	Cathode engineering with perylene-diimide interlayer enabling over 17% efficiency single-junction organic solar cells. <i>Nature Communications</i> , 2020, 11, 2726.	12.8	467
8	Caffeine Improves the Performance and Thermal Stability of Perovskite Solar Cells. <i>Joule</i> , 2019, 3, 1464-1477.	24.0	448
9	High Efficiency Polymer Solar Cells with Efficient Hole Transfer at Zero Highest Occupied Molecular Orbital Offset between Methylated Polymer Donor and Brominated Acceptor. <i>Journal of the American Chemical Society</i> , 2020, 142, 1465-1474.	13.7	344
10	Tuning the electron-deficient core of a non-fullerene acceptor to achieve over 17% efficiency in a single-junction organic solar cell. <i>Energy and Environmental Science</i> , 2020, 13, 2459-2466.	30.8	324
11	Interface and Defect Engineering for Metal Halide Perovskite Optoelectronic Devices. <i>Advanced Materials</i> , 2019, 31, e1803515.	21.0	315
12	High-performance perovskite/Cu(In,Ga)Se ₂ monolithic tandem solar cells. <i>Science</i> , 2018, 361, 904-908.	12.6	314
13	High-brightness Blue and White LEDs based on Inorganic Perovskite Nanocrystals and their Composites. <i>Advanced Materials</i> , 2017, 29, 1606859.	21.0	237
14	Tailored Phase Conversion under Conjugated Polymer Enables Thermally Stable Perovskite Solar Cells with Efficiency Exceeding 21%. <i>Journal of the American Chemical Society</i> , 2018, 140, 17255-17262.	13.7	235
15	Pure Formamidinium-Based Perovskite Light-Emitting Diodes with High Efficiency and Low Driving Voltage. <i>Advanced Materials</i> , 2017, 29, 1603826.	21.0	179
16	Polymerized small molecular acceptor based all-polymer solar cells with an efficiency of 16.16% via tuning polymer blend morphology by molecular design. <i>Nature Communications</i> , 2021, 12, 5264.	12.8	170
17	Achieving Fast Charge Separation and Low Nonradiative Recombination Loss by Rational Fluorination for High-Efficiency Polymer Solar Cells. <i>Advanced Materials</i> , 2019, 31, e1905480.	21.0	162
18	Highly Efficient All-Small-Molecule Organic Solar Cells with Appropriate Active Layer Morphology by Side Chain Engineering of Donor Molecules and Thermal Annealing. <i>Advanced Materials</i> , 2020, 32, e1908373.	21.0	162

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19	Recent progress in organic solar cells (Part II device engineering). Science China Chemistry, 2022, 65, 1457-1497.	8.2	157
20	A Quinoxaline-Based Copolymer Donor Achieving 17.62% Efficiency of Organic Solar Cells. Advanced Materials, 2021, 33, e2100474.	21.0	155
21	High-Performance All-Polymer Solar Cells: Synthesis of Polymer Acceptor by a Random Ternary Copolymerization Strategy. Angewandte Chemie - International Edition, 2020, 59, 15181-15185.	13.8	136
22	Promoting charge separation resulting in ternary organic solar cells efficiency over 17.5%. Nano Energy, 2020, 78, 105272.	16.0	132
23	High performance tandem organic solar cells via a strongly infrared-absorbing narrow bandgap acceptor. Nature Communications, 2021, 12, 178.	12.8	122
24	Unique Energy Alignments of a Ternary Material System toward High-Performance Organic Photovoltaics. Advanced Materials, 2018, 30, e1801501.	21.0	116
25	Efficiency Enhancement of Cu ₂ ZnSn(S,Se) ₄ Solar Cells via Alkali Metals Doping. Advanced Energy Materials, 2016, 6, 1502386.	19.5	109
26	Ternary System with Controlled Structure: A New Strategy toward Efficient Organic Photovoltaics. Advanced Materials, 2018, 30, 1705243.	21.0	105
27	Multifunctional Polymer Framework Modified SnO ₂ Enabling a Photostable FAPbI_3 Perovskite Solar Cell with Efficiency Exceeding 23%. ACS Energy Letters, 2021, 6, 3824-3830.	17.4	93
28	Understanding energetic disorder in electron-deficient-core-based non-fullerene solar cells. Science China Chemistry, 2020, 63, 1159-1168.	8.2	92
29	Unraveling the High Open Circuit Voltage and High Performance of Integrated Perovskite/Organic Bulk-Heterojunction Solar Cells. Nano Letters, 2017, 17, 5140-5147.	9.1	78
30	The effect of alkyl substitution position of thienyl outer side chains on photovoltaic performance of A ⁺ A ⁻ type acceptors. Energy and Environmental Science, 2022, 15, 2011-2020.	30.8	73
31	Efficient Tandem Organic Photovoltaics with Tunable Rear Sub-cells. Joule, 2019, 3, 432-442.	24.0	65
32	16.52% Efficiency All-Polymer Solar Cells with High Tolerance of the Photoactive Layer Thickness. Advanced Materials, 2022, 34, e2108749.	21.0	63
33	A Selenophene Containing Benzodithiophene-thienothiophene Polymer for Additive-Free High Performance Solar Cell. Macromolecules, 2015, 48, 562-568.	4.8	59
34	Effect of the chlorine substitution position of the end-group on intermolecular interactions and photovoltaic performance of small molecule acceptors. Energy and Environmental Science, 2020, 13, 5028-5038.	30.8	56
35	Constructing Monolithic Perovskite/Organic Tandem Solar Cell with Efficiency of 22.0% via Reduced Open-Circuit Voltage Loss and Broadened Absorption Spectra. Advanced Materials, 2022, 34, e2108829.	21.0	56
36	A-structured non-fullerene acceptors for stable organic solar cells with efficiency over 17%. Science China Chemistry, 2022, 65, 1374-1382.	8.2	53

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37	Effects of Short-Chain Alkoxy Substituents on Molecular Self-Assembly and Photovoltaic Performance of Indacenodithiophene-Based Acceptors. <i>Advanced Functional Materials</i> , 2020, 30, 1906855.	14.9	50
38	Introducing Low-Cost Pyrazine Unit into Terpolymer Enables High-Performance Polymer Solar Cells with Efficiency of 18.23%. <i>Advanced Functional Materials</i> , 2022, 32, 2109271.	14.9	49
39	Flexible and Air-Stable Near-Infrared Sensors Based on Solution-Processed Inorganic-Organic Hybrid Phototransistors. <i>Advanced Functional Materials</i> , 2021, 31, 2105887.	14.9	47
40	D-A Copolymer Donor Based on Bithienyl Benzodithiophene D-Unit and Monoalkoxy Bifluoroquinoxaline A-Unit for High-Performance Polymer Solar Cells. <i>Chemistry of Materials</i> , 2020, 32, 3254-3261.	6.7	43
41	Green solvent-processed organic solar cells based on a low cost polymer donor and a small molecule acceptor. <i>Journal of Materials Chemistry C</i> , 2020, 8, 7718-7724.	5.5	40
42	Non-Halogenated Solvent Processed and Additive-Free Tandem Organic Solar Cell with Efficiency Reaching 16.67%. <i>Advanced Functional Materials</i> , 2021, 31, 2102361.	14.9	40
43	Chlorinated polymerized small molecule acceptor enabling ternary all-polymer solar cells with over 16.6% efficiency. <i>Science China Chemistry</i> , 2022, 65, 954-963.	8.2	39
44	Low-cost synthesis of small molecule acceptors makes polymer solar cells commercially viable. <i>Nature Communications</i> , 2022, 13, .	12.8	38
45	Understanding the Effect of the Third Component PC ₇₁ BM on Nanoscale Morphology and Photovoltaic Properties of Ternary Organic Solar Cells. <i>Solar Rrl</i> , 2020, 4, 1900540.	5.8	37
46	Quinoxaline-Based D-A Copolymers for the Applications as Polymer Donor and Hole Transport Material in Polymer/Perovskite Solar Cells. <i>Advanced Materials</i> , 2022, 34, e2104161.	21.0	35
47	15.71% Efficiency All-Small-Molecule Organic Solar Cells Based on Low-Cost Synthesized Donor Molecules. <i>Advanced Functional Materials</i> , 2022, 32, .	14.9	34
48	Rationally Induced Interfacial Dipole in Planar Heterojunction Perovskite Solar Cells for Reduced <i>J_v-V_j</i> Hysteresis. <i>Advanced Energy Materials</i> , 2018, 8, 1800568.	19.5	32
49	High Mobility Indium Oxide Electron Transport Layer for an Efficient Charge Extraction and Optimized Nanomorphology in Organic Photovoltaics. <i>Nano Letters</i> , 2018, 18, 5805-5811.	9.1	31
50	Stable perovskite solar cells with efficiency of 22.6% via quinoxaline-based polymeric hole transport material. <i>Science China Chemistry</i> , 2021, 64, 2035-2044.	8.2	28
51	Asymmetric Siloxane Functional Side Chains Enable High-Performance Donor Copolymers for Photovoltaic Applications. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 17760-17768.	8.0	27
52	Fine-Tuning Miscibility and π - π Stacking by Alkylthio Side Chains of Donor Molecules Enables High-Performance All-Small-Molecule Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 36033-36043.	8.0	27
53	Non-equivalent D-A copolymerization strategy towards highly efficient polymer donor for polymer solar cells. <i>Science China Chemistry</i> , 2021, 64, 1031-1038.	8.2	25
54	Enhanced performance of ternary organic solar cells with a wide bandgap acceptor as the third component. <i>Journal of Materials Chemistry A</i> , 2019, 7, 27423-27431.	10.3	23

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55	High-Efficiency Organic Tandem Solar Cells With Effective Transition Metal Chelates Interconnecting Layer. <i>Solar Rrl</i> , 2017, 1, 1700139.	5.8	19
56	Inorganic-Organic Hybrid Phototransistor Array with Enhanced Photogating Effect for Dynamic Near-Infrared Light Sensing and Image Preprocessing. <i>Nano Letters</i> , 2022, 22, 5434-5442.	9.1	19
57	Introducing Electron-Withdrawing Linking Units and Thiophene π -Bridges into Polymerized Small Molecule Acceptors for High-Efficiency All-Polymer Solar Cells. <i>Chemistry of Materials</i> , 2021, 33, 8212-8222.	6.7	17
58	Ternary All-Polymer Solar Cells with Two Synergetic Donors Enable Efficiency over 14.5%. <i>Energy & Fuels</i> , 2021, 35, 19045-19054.	5.1	15
59	Effects of Alkyl Side Chains of Small Molecule Donors on Morphology and the Photovoltaic Property of All-Small-Molecule Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 54237-54245.	8.0	13
60	Influence of altering chlorine substitution positions on the photovoltaic properties of small molecule donors in all-small-molecule organic solar cells. <i>Journal of Materials Chemistry C</i> , 2022, 10, 2017-2025.	5.5	12
61	Effect of Isomerization of Linking Units on the Photovoltaic Performance of PSMA-Type Polymer Acceptors in All-Polymer Solar Cells. <i>Macromolecules</i> , 2022, 55, 4420-4428.	4.8	11
62	Effects of the Center Units of Small-Molecule Donors on the Morphology, Photovoltaic Performance, and Device Stability of All-Small-Molecule Organic Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2100515.	5.8	10
63	Molecular Properties and Aggregation Behavior of Small-Molecule Acceptors Calculated by Molecular Simulation. <i>ACS Omega</i> , 2021, 6, 14467-14475.	3.5	5
64	A Cost-Effective Alpha-Fluorinated Bithienyl Benzodithiophene Unit for High-Performance Polymer Donor Material. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 55403-55411.	8.0	5
65	Backbone regulation of a bithiazole-based wide bandgap polymer donor by introducing thiophene bridges towards efficient polymer solar cells. <i>Organic Electronics</i> , 2021, 92, 106130.	2.6	2
66	Two new A-D-A type small molecule acceptors based on C_{2v} -symmetric dithienocyclopentaspiro[fluorene-9,9'-xanthene] core for polymer solar cells. <i>Organic Electronics</i> , 2021, 92, 106120.	2.6	1
67	All-in-one strategy: overcome the challenges in the device enlargement of perovskite solar cells. <i>Science China Chemistry</i> , 0, , 1.	8.2	0
68	Photovoltaics: Special Issue Dedicated to Professor Yongfang Li. <i>Aggregate</i> , 2022, 3, .	9.9	0