

# Xuechen Jiao

## List of Publications by Year in descending order

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96  
papers

5,675  
citations

109321

35  
h-index

79698

73  
g-index

100  
all docs

100  
docs citations

100  
times ranked

5909  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dielectric Constant Engineering of Organic Semiconductors: Effect of Planarity and Conjugation Length. <i>Advanced Functional Materials</i> , 2022, 32, 2104259.	14.9	10
2	The magnetic anisotropy of Tb-phthalocyanine films effected by molecular orientation. <i>Applied Surface Science</i> , 2022, 585, 152445.	6.1	4
3	Thermally stable poly(3-hexylthiophene): Nonfullerene solar cells with efficiency breaking 10%. <i>Aggregate</i> , 2022, 3, .	9.9	38
4	Simple Polythiophene Solar Cells Approaching 10% Efficiency via Carbon Chain Length Modulation of Poly(3-alkylthiophene). <i>Macromolecules</i> , 2022, 55, 133-145.	4.8	33
5	Vinylene Flanked Naphtho[1,2-c:5,6-c']bis[1,2,5]thiadiazole Polymer for Low-Crystallinity Ambipolar Transistors. <i>Macromolecules</i> , 2022, 55, 331-337.	4.8	2
6	Single Atom Selenium Substitution-Mediated p-Type Doping in Polythiophenes toward High-Performance Organic Electronics and Thermoelectrics. <i>Advanced Electronic Materials</i> , 2022, 8, .	5.1	4
7	Improving Photovoltaic Performance of Non-Fullerene Polymer Solar Cells Enables by Fine-Tuning Blend Microstructure via Binary Solvent Mixtures. <i>Advanced Functional Materials</i> , 2021, 31, 2008767.	14.9	31
8	Acene Ring Size Optimization in Fused Lactam Polymers Enabling High n-Type Organic Thermoelectric Performance. <i>Journal of the American Chemical Society</i> , 2021, 143, 260-268.	13.7	68
9	Resonant Tender X-ray Diffraction for Disclosing the Molecular Packing of Paracrystalline Conjugated Polymer Films. <i>Journal of the American Chemical Society</i> , 2021, 143, 1409-1415.	13.7	19
10	Shorter alkyl chain in thieno[3,4-c]pyrrole-4,6-dione (TPD)-based large bandgap polymer donors – Yield efficient non-fullerene polymer solar cells. <i>Journal of Energy Chemistry</i> , 2021, 53, 69-76.	12.9	10
11	Rational Design of Donor-Acceptor Based Semiconducting Copolymers with High Dielectric Constants. <i>Journal of Physical Chemistry C</i> , 2021, 125, 6886-6896.	3.1	8
12	Charge transport physics of a unique class of rigid-rod conjugated polymers with fused-ring conjugated units linked by double carbon-carbon bonds. <i>Science Advances</i> , 2021, 7, .	10.3	28
13	Magnetic Improvement and Relaxation Mechanism of the Tb-Phthalocyanine Single-Molecule Magnet by Absorbing CH <sub>2</sub> Cl <sub>2</sub> Molecules. <i>Journal of Physical Chemistry C</i> , 2021, 125, 10165-10172.	3.1	5
14	The effect of the dielectric end groups on the positive bias stress stability of N2200 organic field effect transistors. <i>APL Materials</i> , 2021, 9, 041113.	5.1	13
15	Compatible Acceptors Mediate Morphology and Charge Generation, Transportation, Extraction, and Energy Loss in Efficient Ternary Polymer Solar Cells. <i>ACS Applied Energy Materials</i> , 2021, 4, 10187-10196.	5.1	4
16	Enhanced n-Type Doping of a Naphthalene Diimide Based Copolymer by Modification of the Donor Unit. <i>Advanced Electronic Materials</i> , 2021, 7, 2100407.	5.1	10
17	Revealing the Side-Chain-Dependent Ordering Transition of Highly Crystalline Double-Cable Conjugated Polymers. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 25499-25507.	13.8	31
18	Interface-enhanced organic solar cells with extrapolated T80 lifetimes of over 20- years. <i>Science Bulletin</i> , 2020, 65, 208-216.	9.0	181

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19	Controlling the Microstructure of Conjugated Polymers in High-Mobility Monolayer Transistors via the Dissolution Temperature. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 846-852.	13.8	61
20	Controlling the Microstructure of Conjugated Polymers in High-Mobility Monolayer Transistors via the Dissolution Temperature. <i>Angewandte Chemie</i> , 2020, 132, 856-862.	2.0	15
21	Efficient and Mechanically Robust Ultraflexible Organic Solar Cells Based on Mixed Acceptors. <i>Joule</i> , 2020, 4, 128-141.	24.0	101
22	Boosted photovoltaic performance of indenothiophene-based molecular acceptor via fusing a thiophene. <i>Journal of Materials Chemistry C</i> , 2020, 8, 630-636.	5.5	5
23	Bithieno[3,4-c]pyrrole-4,6-dione-Mediated Crystallinity in Large-Bandgap Polymer Donors Directs Charge Transportation and Recombination in Efficient Nonfullerene Polymer Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 367-375.	17.4	33
24	A Structurally Simple but High-Performing Donor-Acceptor Polymer for Field-Effect Transistor Applications. <i>Advanced Electronic Materials</i> , 2020, 6, 2000490.	5.1	10
25	Resolving Different Physical Origins toward Crystallite Imperfection in Semiconducting Polymers: Crystallite Size vs Paracrystallinity. <i>Journal of Physical Chemistry B</i> , 2020, 124, 10529-10538.	2.6	12
26	Correlation of Nanomorphology with Structural and Spectroscopic Studies in Organic Solar Cells. <i>ACS Applied Nano Materials</i> , 2020, 3, 11080-11089.	5.0	7
27	The alkyl chain positioning of thieno[3,4-c]pyrrole-4,6-dione (TPD)-Based polymer donors mediates the energy loss, charge transport and recombination in polymer solar cells. <i>Journal of Power Sources</i> , 2020, 480, 229098.	7.8	4
28	Quantitative Determination of the Vertical Segregation and Molecular Ordering of PBDB-T/ITIC Blend Films with Solvent Additives. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 24165-24173.	8.0	21
29	Magnetic Modification and the Mechanism of Tb-Phthalocyanine Single Molecule Magnets Prepared by a High Yield Method. <i>European Journal of Inorganic Chemistry</i> , 2020, 2020, 2112-2117.	2.0	8
30	Pronounced Dependence of All-Polymer Solar Cells Photovoltaic Performance on the Alkyl Substituent Patterns in Large Bandgap Polymer Donors. <i>ChemPhysChem</i> , 2020, 21, 908-915.	2.1	7
31	Synthesis and Aggregation Behavior of a Glycolated Naphthalene Diimide Bithiophene Copolymer for Application in Low-Level n-Doped Organic Thermoelectrics. <i>Macromolecules</i> , 2020, 53, 5158-5168.	4.8	27
32	High-performance all-polymer solar cells with only 0.47 eV energy loss. <i>Science China Chemistry</i> , 2020, 63, 1449-1460.	8.2	62
33	Altering alkyl-chains branching positions for boosting the performance of small-molecule acceptors for highly efficient nonfullerene organic solar cells. <i>Science China Chemistry</i> , 2020, 63, 361-369.	8.2	128
34	High-Performance Ternary Organic Solar Cells with Controllable Morphology via Sequential Layer-by-Layer Deposition. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 13077-13086.	8.0	69
35	Crucial Role of Fluorine in Fully Alkylated Ladder-Type Carbazole-Based Nonfullerene Organic Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 9555-9562.	8.0	31
36	Synergistic Effects of Polymer Donor Backbone Fluorination and Nitrogenation Translate into Efficient Non-Fullerene Bulk-Heterojunction Polymer Solar Cells. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 9545-9554.	8.0	19

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37	Radical Anion Yield, Stability, and Electrical Conductivity of Naphthalene Diimide Copolymers <i>n</i> -Doped with Tertiary Amines. <i>ACS Applied Polymer Materials</i> , 2020, 2, 1954-1963.	4.4	12
38	A Transfer Method for High-Mobility, Bias-Stable, and Flexible Organic Field-Effect Transistors. <i>Advanced Materials Technologies</i> , 2020, 5, 2000169.	5.8	14
39	Fused Cyclopentadithienothiophene Acceptor Enables Ultrahigh Short-Circuit Current and High Efficiency >11% in As-Cast Organic Solar Cells. <i>Advanced Functional Materials</i> , 2019, 29, 1904956.	14.9	26
40	A multi-objective optimization-based layer-by-layer blade-coating approach for organic solar cells: rational control of vertical stratification for high performance. <i>Energy and Environmental Science</i> , 2019, 12, 3118-3132.	30.8	142
41	Perovskite X-Ray Detectors: Flexible, Printable Soft X-Ray Detectors Based on All-Inorganic Perovskite Quantum Dots ( <i>Adv. Mater.</i> 30/2019). <i>Advanced Materials</i> , 2019, 31, 1970214.	21.0	18
42	Effect of Backbone Sequence of a Naphthalene Diimide-Based Copolymer on Performance in n-Type Organic Thin-Film Transistors. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 35185-35192.	8.0	14
43	Investigation of the effect of microstructural changes on thermal transport in semicrystalline polymer semiconductors. <i>APL Materials</i> , 2019, 7, 081118.	5.1	5
44	Oriented Attachment as the Mechanism for Microstructure Evolution in Chloride-Derived Hybrid Perovskite Thin Films. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 39930-39939.	8.0	26
45	Separating Crystallization Process of P3HT and O-IDTBR to Construct Highly Crystalline Interpenetrating Network with Optimized Vertical Phase Separation. <i>Advanced Functional Materials</i> , 2019, 29, 1807591.	14.9	82
46	Pyrene-fused PDI based ternary solar cells: high power conversion efficiency over 10%, and improved device thermal stability. <i>Materials Chemistry Frontiers</i> , 2019, 3, 93-102.	5.9	27
47	Enantiopure <i>versus</i> racemic naphthalene diimide-based n-type organic semiconductors: effect on charge transport. <i>Journal of Materials Chemistry C</i> , 2019, 7, 2659-2665.	5.5	16
48	A universal layer-by-layer solution-processing approach for efficient non-fullerene organic solar cells. <i>Energy and Environmental Science</i> , 2019, 12, 384-395.	30.8	193
49	Detecting the Onset of Molecular Reorganization in Conjugated Polymer Thin Films Using an Easily Accessible Optical Method. <i>Macromolecules</i> , 2019, 52, 4646-4654.	4.8	10
50	Polaron spin dynamics in high-mobility polymeric semiconductors. <i>Nature Physics</i> , 2019, 15, 814-822.	16.7	40
51	Flexible, Printable Soft X-Ray Detectors Based on All-Inorganic Perovskite Quantum Dots. <i>Advanced Materials</i> , 2019, 31, e1901644.	21.0	221
52	A wide-bandgap D-A copolymer donor based on a chlorine substituted acceptor unit for high performance polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2019, 7, 14070-14078.	10.3	68
53	Controlling intermolecular redox-doping of naphthalene diimides. <i>Journal of Materials Chemistry C</i> , 2019, 7, 4466-4474.	5.5	20
54	Cholesteric Aggregation at the Quinoidal-to-Diradical Border Enabled Stable n-Doped Conductor. <i>CheM</i> , 2019, 5, 964-976.	11.7	79

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55	A new small molecule donor for efficient and stable all small molecule organic solar cells. <i>Organic Electronics</i> , 2019, 70, 78-85.	2.6	20
56	From Homochiral Assembly to Heterochiral Assembly: A Leap in Charge Transport Properties of Binaphthol-Based Axially Chiral Materials. <i>Langmuir</i> , 2019, 35, 6188-6195.	3.5	6
57	Solubilizing core modifications on high-performing benzodithiophene-based molecular semiconductors and their influences on film nanostructure and photovoltaic performance. <i>Journal of Materials Chemistry A</i> , 2019, 7, 6312-6326.	10.3	16
58	Nonsymmetrical Connection of Two Identical Building Blocks: Constructing Donor-Acceptor Molecules as Deep Blue Emitting Materials for Efficient Organic Emitting Diodes. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 842-847.	4.6	45
59	Self-Assembled 2D Perovskite Layers for Efficient Printable Solar Cells. <i>Advanced Energy Materials</i> , 2019, 9, 1803258.	19.5	149
60	Influence of side-chain length and geometry on the thermal expansion behavior and polymorphism of naphthalene diimide-based thin films. <i>Physical Review Materials</i> , 2019, 3, .	2.4	9
61	Interfacial benzenethiol modification facilitates charge transfer and improves stability of cm-sized metal halide perovskite solar cells with up to 20% efficiency. <i>Energy and Environmental Science</i> , 2018, 11, 1880-1889.	30.8	148
62	Miscibility-Function Relations in Organic Solar Cells: Significance of Optimal Miscibility in Relation to Percolation. <i>Advanced Energy Materials</i> , 2018, 8, 1703058.	19.5	223
63	Diketopyrrolopyrrole based organic semiconductors with different numbers of thiophene units: symmetry tuning effect on electronic devices. <i>New Journal of Chemistry</i> , 2018, 42, 4017-4028.	2.8	19
64	An Alkylated Indacenodithieno[3,2-b]thiophene-Based Nonfullerene Acceptor with High Crystallinity Exhibiting Single Junction Solar Cell Efficiencies Greater than 13% with Low Voltage Losses. <i>Advanced Materials</i> , 2018, 30, 1705209.	21.0	474
65	On the manifestation of electron-electron interactions in the thermoelectric response of semicrystalline conjugated polymers with low energetic disorder. <i>Communications Physics</i> , 2018, 1, .	5.3	22
66	Charge Generation and Recombination in an Organic Solar Cell with Low Energetic Offsets. <i>Advanced Energy Materials</i> , 2018, 8, 1701073.	19.5	60
67	Incorporation of 2,6-Connected Azulene Units into the Backbone of Conjugated Polymers: Towards High-Performance Organic Optoelectronic Materials. <i>Angewandte Chemie</i> , 2018, 130, 1336-1340.	2.0	40
68	Incorporation of 2,6-Connected Azulene Units into the Backbone of Conjugated Polymers: Towards High-Performance Organic Optoelectronic Materials. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 1322-1326.	13.8	160
69	Oriented Quasi-2D Perovskites for High Performance Optoelectronic Devices. <i>Advanced Materials</i> , 2018, 30, e1804771.	21.0	268
70	Measuring Temperature-Dependent Miscibility for Polymer Solar Cell Blends: An Easily Accessible Optical Method Reveals Complex Behavior. <i>Chemistry of Materials</i> , 2018, 30, 3943-3951.	6.7	38
71	All-small molecule solar cells based on donor molecule optimization with highly enhanced efficiency and stability. <i>Journal of Materials Chemistry A</i> , 2018, 6, 15675-15683.	10.3	55
72	N-Alkyl substituted 1-benzimidazoles as improved n-type dopants for a naphthalene-diimide based copolymer. <i>Journal of Materials Chemistry A</i> , 2018, 6, 15294-15302.	10.3	28

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73	Drastic Improvement of Air Stability in an n-Type Doped Naphthalene-Diimide Polymer by Thionation. ACS Applied Energy Materials, 2018, 1, 4626-4634.	5.1	39
74	Quinoid Resonant Conducting Polymers Achieve High Electrical Conductivity over 4000 S cm <sup>-1</sup> for Thermoelectrics. Advanced Science, 2018, 5, 1800947.	11.2	20
75	First Resonance Energy Transfer Drives Higher Efficiency in Ternary Blend Organic Solar Cells. ACS Applied Energy Materials, 2018, 1, 4874-4882.	5.1	34
76	Quantitative Morphology-Performance Correlations in Organic Solar Cells: Insights from Soft X-Ray Scattering. Advanced Energy Materials, 2017, 7, 1700084.	19.5	123
77	Charge Generation and Mobility-Limited Performance of Bulk Heterojunction Solar Cells with a Higher Adduct Fullerene. Journal of Physical Chemistry C, 2017, 121, 10305-10316.	3.1	11
78	Crystallization of Sensitizers Controls Morphology and Performance in Si/C-PCPDTBT-Sensitized P3HT:ICBA Ternary Blends. Macromolecules, 2017, 50, 2415-2423.	4.8	27
79	High-Efficiency Nonfullerene Organic Solar Cells: Critical Factors that Affect Complex Multi-Length Scale Morphology and Device Performance. Advanced Energy Materials, 2017, 7, 1602000.	19.5	232
80	Gaining further insight into the effects of thermal annealing and solvent vapor annealing on time morphological development and degradation in small molecule solar cells. Journal of Materials Chemistry A, 2017, 5, 18101-18110.	10.3	50
81	Fluorinated Thiophene Units Improve Photovoltaic Device Performance of Donor-Acceptor Copolymers. Chemistry of Materials, 2017, 29, 5990-6002.	6.7	57
82	Control of Mesoscale Morphology and Photovoltaic Performance in Diketopyrrolopyrrole-Based Small Band Gap Terpolymers. Advanced Energy Materials, 2017, 7, 1601138.	19.5	59
83	Charge Creation and Recombination in Multi-Length Scale Polymer:Fullerene BHJ Solar Cell Morphologies. Advanced Energy Materials, 2016, 6, 1600699.	19.5	85
84	High efficiency and stability small molecule solar cells developed by bulk microstructure fine-tuning. Nano Energy, 2016, 28, 241-249.	16.0	57
85	Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. Chemistry of Materials, 2016, 28, 6178-6185.	6.7	87
86	Controlling additive behavior to reveal an alternative morphology formation mechanism in polymer:fullerene bulk-heterojunctions. Journal of Materials Chemistry A, 2016, 4, 16136-16147.	10.3	22
87	Designing ternary blend bulk heterojunction solar cells with reduced carrier recombination and a fill factor of 77%. Nature Energy, 2016, 1, .	39.5	330
88	Time-Dependent Morphology Evolution of Solution-Processed Small Molecule Solar Cells during Solvent Vapor Annealing. Advanced Energy Materials, 2016, 6, 1502579.	19.5	96
89	Manipulating Aggregation and Molecular Orientation in All-Polymer Photovoltaic Cells. Advanced Materials, 2015, 27, 6046-6054.	21.0	264
90	2D-Conjugated Benzodithiophene-Based Polymer Acceptor: Design, Synthesis, Nanomorphology, and Photovoltaic Performance. Macromolecules, 2015, 48, 7156-7163.	4.8	70

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91	Correlating domain purity with charge carrier mobility in bulk heterojunction polymer solar cells. Proceedings of SPIE, 2014, , .	0.8	5
92	Analysis of Interdiffused InGaN Quantum Wells for Visible Light-Emitting Diodes. Journal of Display Technology, 2013, 9, 199-205.	1.2	12
93	Analysis of light extraction efficiency enhancement for InGaN quantum wells light-emitting diodes with microspheres. , 2012, , .		2
94	Analysis of thermally-annealed InGaN quantum wells for light-emitting diodes. , 2012, , .		0
95	Analysis of Position and Thickness Dependences of Delta Layer in InGaN-Delta-InN Quantum Wells Light-Emitting Diodes. , 2012, , .		1
96	Viscosity Measurements of Very Thin Polymer Films. Macromolecules, 2005, 38, 5144-5151.	4.8	35