

# Guangchao Han

## List of Publications by Year in descending order

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57  
papers

5,106  
citations

136950

32  
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149698

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58  
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58  
docs citations

58  
times ranked

4390  
citing authors

#	ARTICLE	IF	CITATIONS
1	Regulation of Molecular Orientations of A <sup>+</sup> D <sup>-</sup> A Nonfullerene Acceptors for Organic Photovoltaics: The Role of End-Group $\pi$ - $\pi$ Stacking. <i>Advanced Functional Materials</i> , 2022, 32, 2108551.	14.9	20
2	Impact of n-Doping Mechanisms on the Molecular Packing and Electron Mobilities of Molecular Semiconductors for Organic Thermoelectrics. <i>Organic Materials</i> , 2022, 4, 1-6.	2.0	0
3	Molecular Insight into Efficient Charge Generation in Low-Driving-Force Nonfullerene Organic Solar Cells. <i>Accounts of Chemical Research</i> , 2022, 55, 869-877.	15.6	46
4	The Intrinsic Role of the Fusion Mode and Electron-Deficient Core in Fused-Ring Electron Acceptors for Organic Photovoltaics. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	13.8	25
5	The Intrinsic Role of the Fusion Mode and Electron-Deficient Core in Fused-Ring Electron Acceptors for Organic Photovoltaics. <i>Angewandte Chemie</i> , 2022, 134, .	2.0	4
6	Importance of molecular rigidity on reducing the energy losses in organic solar cells: implication from geometric relaxations of A <sup>+</sup> D <sup>-</sup> A electron acceptors. <i>Materials Chemistry Frontiers</i> , 2021, 5, 3903-3910.	5.9	16
7	Molecular Origin of Carbon-Oxygen-Bridge Isomerization Induced Reverse Aggregation Ability in Acceptor-Donor-Acceptor Electron Acceptors for Organic Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2000780.	5.8	5
8	Non-fullerene acceptors with branched side chains and improved molecular packing to exceed 18% efficiency in organic solar cells. <i>Nature Energy</i> , 2021, 6, 605-613.	39.5	1,307
9	Sub-5 nm single crystalline organic $\pi$ - $\pi$ heterojunctions. <i>Nature Communications</i> , 2021, 12, 2774.	12.8	39
10	Electrical Loss Management by Molecularly Manipulating Dopant-free Poly(3-hexylthiophene) towards 16.93% CsPbI <sub>2</sub> Br Solar Cells. <i>Angewandte Chemie</i> , 2021, 133, 16524-16529.	2.0	18
11	Electrical Loss Management by Molecularly Manipulating Dopant-free Poly(3-hexylthiophene) towards 16.93% CsPbI <sub>2</sub> Br Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 16388-16393.	13.8	57
12	Intra-chain and inter-chain synergistic effect gives rise to high electron mobilities for naphthalenediimide based copolymers. <i>Journal of Materials Chemistry C</i> , 2020, 8, 16527-16532.	5.5	10
13	Unraveling the influence of non-fullerene acceptor molecular packing on photovoltaic performance of organic solar cells. <i>Nature Communications</i> , 2020, 11, 6005.	12.8	112
14	Multi-channel exciton dissociation in D18/Y6 complexes for high-efficiency organic photovoltaics. <i>Journal of Materials Chemistry A</i> , 2020, 8, 20408-20413.	10.3	35
15	Barrier-Free Charge Separation Enabled by Electronic Polarization in High-Efficiency Non-fullerene Organic Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 2585-2591.	4.6	47
16	Monolayer Two-dimensional Molecular Crystals for an Ultrasensitive OFET-based Chemical Sensor. <i>Angewandte Chemie</i> , 2020, 132, 4410-4414.	2.0	10
17	Monolayer Two-dimensional Molecular Crystals for an Ultrasensitive OFET-based Chemical Sensor. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 4380-4384.	13.8	90
18	Doping mechanisms of N-DMBI-H for organic thermoelectrics: hydrogen removal vs. hydride transfer. <i>Journal of Materials Chemistry A</i> , 2020, 8, 8323-8328.	10.3	66

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19	Reducing the Singlet-Triplet Energy Gap by End-Group $\pi$ - $\pi$ Stacking Toward High-Efficiency Organic Photovoltaics. <i>Advanced Materials</i> , 2020, 32, e2000975.	21.0	77
20	High-Performance Fluorinated Fused-Ring Electron Acceptor with 3D Stacking and Exciton/Charge Transport. <i>Advanced Materials</i> , 2020, 32, e2000645.	21.0	122
21	High-Yield and Damage-Free Exfoliation of Layered Graphdiyne in Aqueous Phase. <i>Angewandte Chemie</i> , 2019, 131, 756-760.	2.0	10
22	Rational Tuning of Molecular Interaction and Energy Level Alignment Enables High-Performance Organic Photovoltaics. <i>Advanced Materials</i> , 2019, 31, e1904215.	21.0	162
23	Origin of Photocurrent and Voltage Losses in Organic Solar Cells. <i>Advanced Theory and Simulations</i> , 2019, 2, 1900067.	2.8	46
24	Nature of the Lowest Singlet and Triplet Excited States of Organic Thermally Activated Delayed Fluorescence Emitters: A Self-Consistent Quantum Mechanics/Embedded Charge Study. <i>Chemistry of Materials</i> , 2019, 31, 6665-6671.	6.7	46
25	Local Excitation/Charge-Transfer Hybridization Simultaneously Promotes Charge Generation and Reduces Nonradiative Voltage Loss in Nonfullerene Organic Solar Cells. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 2911-2918.	4.6	73
26	Electronic and optical properties of $\pi$ -bridged perylenediimide derivatives: the role of $\pi$ -bridges. <i>Journal of Materials Chemistry A</i> , 2019, 7, 12532-12537.	10.3	9
27	Conformational and aggregation properties of PffBT4T polymers: atomistic insight into the impact of alkyl-chain branching positions. <i>Journal of Materials Chemistry C</i> , 2019, 7, 14198-14204.	5.5	15
28	Improving the Electron Mobility of ITIC by End-Group Modulation: The Role of Fluorination and $\pi$ -Extension. <i>Solar Rrl</i> , 2019, 3, 1800251.	5.8	32
29	Impact of alkyl chain branching positions on molecular packing and electron transport of dimeric perylenediimide derivatives. <i>Journal of Energy Chemistry</i> , 2019, 35, 138-143.	12.9	18
30	High-Yield and Damage-Free Exfoliation of Layered Graphdiyne in Aqueous Phase. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 746-750.	13.8	79
31	A nonfullerene acceptor utilizing a novel asymmetric multifused-ring core unit for highly efficient organic solar cells. <i>Journal of Materials Chemistry C</i> , 2018, 6, 4873-4877.	5.5	73
32	From Molecular Packing Structures to Electronic Processes: Theoretical Simulations for Organic Solar Cells. <i>Advanced Energy Materials</i> , 2018, 8, 1702743.	19.5	93
33	Novel $\pi$ -Conjugated Polymer Based on an Extended Thienoquinoid. <i>Chemistry of Materials</i> , 2018, 30, 319-323.	6.7	17
34	Tunable Electron Donating and Accepting Properties Achieved by Modulating the Steric Hindrance of Side Chains in A-D-A Small-Molecule Photovoltaic Materials. <i>Chemistry of Materials</i> , 2018, 30, 619-628.	6.7	49
35	Origin of High Efficiencies for Thermally Activated Delayed Fluorescence Organic Light-Emitting Diodes: Atomistic Insight into Molecular Orientation and Torsional Disorder. <i>Journal of Physical Chemistry C</i> , 2018, 122, 27191-27197.	3.1	48
36	Suppressing charge recombination in small-molecule ternary organic solar cells by modulating donor-acceptor interfacial arrangements. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 24570-24576.	2.8	13

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37	Atomistic Insight Into Donor/Acceptor Interfaces in High-Efficiency Nonfullerene Organic Solar Cells. <i>Solar Rrl</i> , 2018, 2, 1800190.	5.8	47
38	Optimized Fibril Network Morphology by Precise Side-Chain Engineering to Achieve High-Performance Bulk-Heterojunction Organic Solar Cells. <i>Advanced Materials</i> , 2018, 30, e1707353.	21.0	271
39	Boosting the electron mobilities of dimeric perylene diimides by simultaneously enhancing intermolecular and intramolecular electronic interactions. <i>Journal of Materials Chemistry A</i> , 2018, 6, 14224-14230.	10.3	21
40	Spectroscopic Study of Charge Transport at Organic Solid-Water Interface. <i>Chemistry of Materials</i> , 2018, 30, 5422-5428.	6.7	7
41	Rationalizing Small-Molecule Donor Design toward High-Performance Organic Solar Cells: Perspective from Molecular Architectures. <i>Advanced Theory and Simulations</i> , 2018, 1, 1800091.	2.8	29
42	Importance of side-chain anchoring atoms on electron donor/fullerene interfaces for high-performance organic solar cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 9316-9321.	10.3	34
43	Terminal $\pi$ - $\pi$ stacking determines three-dimensional molecular packing and isotropic charge transport in an A <sup>+</sup> -A <sup>-</sup> electron acceptor for non-fullerene organic solar cells. <i>Journal of Materials Chemistry C</i> , 2017, 5, 4852-4857.	5.5	192
44	Achieving Highly Efficient Nonfullerene Organic Solar Cells with Improved Intermolecular Interaction and Open-Circuit Voltage. <i>Advanced Materials</i> , 2017, 29, 1700254.	21.0	363
45	Insertion of double bond $\pi$ -bridges of A <sup>+</sup> -D <sup>+</sup> -A <sup>-</sup> acceptors for high performance near-infrared polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2017, 5, 22588-22597.	10.3	61
46	Energetic fluctuations in amorphous semiconducting polymers: Impact on charge-carrier mobility. <i>Journal of Chemical Physics</i> , 2017, 147, 134904.	3.0	21
47	Deep-Red to Near-Infrared Thermally Activated Delayed Fluorescence in Organic Solid Films and Electroluminescent Devices. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 11525-11529.	13.8	293
48	Deep-Red to Near-Infrared Thermally Activated Delayed Fluorescence in Organic Solid Films and Electroluminescent Devices. <i>Angewandte Chemie</i> , 2017, 129, 11683-11687.	2.0	47
49	The nature of excited states in dipolar donor/fullerene complexes for organic solar cells: evolution with the donor stack size. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 15955-15963.	2.8	25
50	Revealing the influence of the solvent evaporation rate and thermal annealing on the molecular packing and charge transport of DPP(TBFu) <sub>2</sub> . <i>Journal of Materials Chemistry C</i> , 2016, 4, 4654-4661.	5.5	31
51	Organic Cocrystal Photovoltaic Behavior: A Model System to Study Charge Recombination of C <sub>60</sub> and C <sub>70</sub> at the Molecular Level. <i>Advanced Electronic Materials</i> , 2016, 2, 1500423.	5.1	42
52	Field-Effect Transistors: A Cofacially Stacked Electron-Deficient Small Molecule with a High Electron Mobility of over 10 cm <sup>2</sup> V <sup>-1</sup> s <sup>-1</sup> in Air (Adv. Mater. 48/2015). <i>Advanced Materials</i> , 2015, 27, 8120-8120.	21.0	2
53	A Cofacially Stacked Electron-Deficient Small Molecule with a High Electron Mobility of over 10 cm <sup>2</sup> V <sup>-1</sup> s <sup>-1</sup> in Air. <i>Advanced Materials</i> , 2015, 27, 8051-8055.	21.0	97
54	Deposition Growth and Morphologies of C <sub>60</sub> on DTDCTB Surfaces: An Atomistic Insight into the Integrated Impact of Surface Stability, Landscape, and Molecular Orientation. <i>Advanced Materials Interfaces</i> , 2015, 2, 1500329.	3.7	23

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55	Graphdiyne Oxides as Excellent Substrate for Electroless Deposition of Pd Clusters with High Catalytic Activity. <i>Journal of the American Chemical Society</i> , 2015, 137, 5260-5263.	13.7	341
56	Hot Charge-Transfer States Determine Exciton Dissociation in the DTDCTB/C <sub>60</sub> Complex for Organic Solar Cells: A Theoretical Insight. <i>Journal of Physical Chemistry C</i> , 2015, 119, 11320-11326.	3.1	46
57	Fine-Tuning of Crystal Packing and Charge Transport Properties of BDOPV Derivatives through Fluorine Substitution. <i>Journal of the American Chemical Society</i> , 2015, 137, 15947-15956.	13.7	224