Nikos Kopidakis

List of Publications by Year
in descending order

104 papers	11,271 citations	43973 48 h-index	43802 91 g-index
107 all docs	107 docs citations	107 times ranked	13894 citing authors

#	Article	IF	Citations
1	Solar cell efficiency tables (version 57). Progress in Photovoltaics: Research and Applications, 2021, 29, 3-15.	4.4	787
2	Electrons in nanostructured TiO2 solar cells: transport, recombination and photovoltaic properties. Coordination Chemistry Reviews, 2004, 248, 1165-1179.	9.5	766
3	Solar cell efficiency tables (Version 55). Progress in Photovoltaics: Research and Applications, 2020, 28, 3-15.	4.4	694
4	Heterojunction Modification for Highly Efficient Organicâ€"Inorganic Perovskite Solar Cells. ACS Nano, 2014, 8, 12701-12709.	7.3	614
5	Endohedral fullerenes for organic photovoltaic devices. Nature Materials, 2009, 8, 208-212.	13.3	599
6	Solar cell efficiency tables (version 56). Progress in Photovoltaics: Research and Applications, 2020, 28, 629-638.	4.4	461
7	Transport-Limited Recombination of Photocarriers in Dye-Sensitized Nanocrystalline TiO2Solar Cells. Journal of Physical Chemistry B, 2003, 107, 11307-11315.	1.2	412
8	Narrowband light detection via internal quantum efficiency manipulation of organic photodiodes. Nature Communications, 2015, 6, 6343.	5.8	406
9	Photovoltaic Devices with a Low Band Gap Polymer and CdSe Nanostructures Exceeding 3% Efficiency. Nano Letters, 2010, 10, 239-242.	4.5	400
10	Solar cell efficiency tables (Version 58). Progress in Photovoltaics: Research and Applications, 2021, 29, 657-667.	4.4	363
11	Effect of a Coadsorbent on the Performance of Dye-Sensitized TiO2 Solar Cells:â€‰ Shielding versus Band-Edge Movement. Journal of Physical Chemistry B, 2005, 109, 23183-23189.	1.2	294
12	Effect of an Adsorbent on Recombination and Band-Edge Movement in Dye-Sensitized TiO2Solar Cells:Â Evidence for Surface Passivation. Journal of Physical Chemistry B, 2006, 110, 12485-12489.	1.2	266
13	Photoinduced Degradation of Polymer and Polymerâ€"Fullerene Active Layers: Experiment and Theory. Advanced Functional Materials, 2010, 20, 3476-3483.	7.8	248
14	Effect of Polymer Processing on the Performance of Poly(3-hexylthiophene)/ZnO Nanorod Photovoltaic Devices. Journal of Physical Chemistry C, 2007, 111, 16640-16645.	1.5	235
15	Removal of Residual Diiodooctane Improves Photostability of High-Performance Organic Solar Cell Polymers. Chemistry of Materials, 2016, 28, 876-884.	3.2	235
16	Revealing the Dynamics of Charge Carriers in Polymer:Fullerene Blends Using Photoinduced Time-Resolved Microwave Conductivity. Journal of Physical Chemistry C, 2013, 117, 24085-24103.	1.5	219
17	Pathways for the degradation of organic photovoltaic P3HT:PCBM based devices. Solar Energy Materials and Solar Cells, 2008, 92, 746-752.	3.0	218
18	Theoretical Studies on Conjugated Phenyl-Cored Thiophene Dendrimers for Photovoltaic Applications. Journal of the American Chemical Society, 2007, 129, 14257-14270.	6.6	190

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19	Influence of Surface Area on Charge Transport and Recombination in Dye-Sensitized TiO2Solar Cellsâ€. Journal of Physical Chemistry B, 2006, 110, 25174-25180.	1.2	184
20	Grain-Size-Limited Mobility in Methylammonium Lead Iodide Perovskite Thin Films. ACS Energy Letters, 2016, 1, 561-565.	8.8	160
21	Bipolar Charge Transport in PCPDTBTâ€PCBM Bulkâ€Heterojunctions for Photovoltaic Applications. Advanced Functional Materials, 2008, 18, 1757-1766.	7.8	156
22	An Optimal Driving Force for Converting Excitons into Free Carriers in Excitonic Solar Cells. Journal of Physical Chemistry C, 2012, 116, 8916-8923.	1.5	148
23	A Small Molecule Nonâ€fullerene Electron Acceptor for Organic Solar Cells. Advanced Energy Materials, 2011, 1, 73-81.	10.2	147
24	The Effect of Nanoparticle Shape on the Photocarrier Dynamics and Photovoltaic Device Performance of Poly(3â€hexylthiophene):CdSe Nanoparticle Bulk Heterojunction Solar Cells. Advanced Functional Materials, 2010, 20, 2629-2635.	7.8	139
25	The Role of Electron Affinity in Determining Whether Fullerenes Catalyze or Inhibit Photooxidation of Polymers for Solar Cells. Advanced Energy Materials, 2012, 2, 1351-1357.	10.2	134
26	Dark Carriers, Trapping, and Activation Control of Carrier Recombination in Neat P3HT and P3HT:PCBM Blends. Journal of Physical Chemistry C, 2011, 115, 23134-23148.	1.5	132
27	Bulk heterojunction organic photovoltaic devices based on phenyl-cored thiophene dendrimers. Applied Physics Letters, 2006, 89, 103524.	1.5	130
28	Quenching of Excitons by Holes in Poly(3-hexylthiophene) Films. Journal of Physical Chemistry C, 2008, 112, 9865-9871.	1.5	128
29	Effect of ZnO Processing on the Photovoltage of ZnO/Poly(3-hexylthiophene) Solar Cells. Journal of Physical Chemistry C, 2008, 112, 9544-9547.	1.5	111
30	A Narrow Optical Gap Small Molecule Acceptor for Organic Solar Cells. Advanced Energy Materials, 2013, 3, 54-59.	10.2	107
31	Prolonging Charge Separation in P3HTâˆ’SWNT Composites Using Highly Enriched Semiconducting Nanotubes. Nano Letters, 2010, 10, 4627-4633.	4.5	106
32	The influence of solidâ€state microstructure on the origin and yield of longâ€lived photogenerated charge in neat semiconducting polymers. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 27-37.	2.4	101
33	Device Performance of Emerging Photovoltaic Materials (Version 1). Advanced Energy Materials, 2021, 11, 2002774.	10.2	93
34	Electron Affinity of Phenylâ€“C₆₁â€“Butyric Acid Methyl Ester (PCBM). Journal of Physical Chemistry C, 2013, 117, 14958-14964.	1.5	91
35	The synthesis and properties of solution processable phenyl cored thiophene dendrimers. Journal of Materials Chemistry, 2005, 15, 4518.	6.7	84
36	Morphological Origin of Charge Transport Anisotropy in Aligned Polythiophene Thin Films. Advanced Functional Materials, 2014, 24, 3422-3431.	7.8	77

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37	Planar versus mesoscopic perovskite microstructures: The influence of CH3NH3PbI3 morphology on charge transport and recombination dynamics. Nano Energy, 2016, 22, 439-452.	8.2	76
38	Timeâ€ofâ€Flight Studies of Electronâ€Collection Kinetics in Polymer:Fullerene Bulkâ€Heterojunction Solar Cells. Advanced Functional Materials, 2011, 21, 2580-2586.	7.8	70
39	Photoinduced Carrier Generation and Decay Dynamics in Intercalated and Non-intercalated Polymer:Fullerene Bulk Heterojunctions. ACS Nano, 2011, 5, 5635-5646.	7.3	67
40	Photoinduced Energy and Charge Transfer in P3HT:SWNT Composites. Journal of Physical Chemistry Letters, 2010, 1, 2406-2411.	2.1	66
41	Device Performance of Emerging Photovoltaic Materials (Version 2). Advanced Energy Materials, 2021, 11, .	10.2	66
42	Photovoltaic Charge Generation in Organic Semiconductors Based on Long-Range Energy Transfer. ACS Nano, 2010, 4, 5437-5445.	7.3	65
43	Beyond PCBM: Understanding the Photovoltaic Performance of Blends of Indeneâ€C₆₀ Multiadducts with Poly(3â€hexylthiophene). Advanced Functional Materials, 2012, 22, 4115-4127.	7.8	63
44	5,10-Dihydroindolo[3,2-<i>b</i>]indole-Based Copolymers with Alternating Donor and Acceptor Moieties for Organic Photovoltaics. Macromolecules, 2013, 46, 1350-1360.	2.2	63
45	Fullerenes and carbon nanotubes as acceptor materials in organic photovoltaics. Materials Letters, 2013, 90, 115-125.	1.3	63
46	Direct Synthesis of CdSe Nanoparticles in Poly(3-hexylthiophene). Journal of the American Chemical Society, 2009, 131, 17726-17727.	6.6	61
47	Benzodithiophene and Imide-Based Copolymers for Photovoltaic Applications. Chemistry of Materials, 2012, 24, 1346-1356.	3.2	58
48	Ethynylene-Linked Donorâ€"Acceptor Alternating Copolymers. Macromolecules, 2013, 46, 3367-3375.	2.2	57
49	Low-bandgap thiophene dendrimers for improved light harvesting. Journal of Materials Chemistry, 2009, 19, 5311.	6.7	46
50	Effect of nonideal statistics on electron diffusion in sensitized nanocrystallineTiO2. Physical Review B, 2005, 71, .	1.1	45
51	Photoinduced Charge Carrier Generation and Decay in Sequentially Deposited Polymer/Fullerene Layers: Bulk Heterojunction vs Planar Interface. Journal of Physical Chemistry C, 2012, 116, 7293-7305.	1.5	42
52	Free Carrier Generation and Recombination in Polymer-Wrapped Semiconducting Carbon Nanotube Films and Heterojunctions. Journal of Physical Chemistry Letters, 2013, 4, 3550-3559.	2.1	42
53	Molecular weight dependence of carrier mobility and recombination rate in neat P3HT films. Journal of Polymer Science, Part B: Polymer Physics, 2018, 56, 31-35.	2.4	42
54	Efficient Photoinduced Charge Injection from Chemical Bath Deposited CdS into Mesoporous TiO₂ Probed with Time-Resolved Microwave Conductivity. Journal of Physical Chemistry C, 2008, 112, 7742-7749.	1.5	35

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55	Thermal [6,6] â†’ [6,6] Isomerization and Decomposition of PCBM (Phenyl-C₆₁-butyric Acid) Tj ETQq1 1 0.784314 rgBT	3.2	33
56	Exciton Migration in Conjugated Dendrimers: A Joint Experimental and Theoretical Study. ChemPhysChem, 2009, 10, 3285-3294.	1.0	31
57	Understanding Local and Macroscopic Electron Mobilities in the Fullerene Network of Conjugated Polymerâ€based Solar Cells: Timeâ€Resolved Microwave Conductivity and Theory. Advanced Functional Materials, 2014, 24, 784-792.	7.8	31
58	Trap-limited carrier recombination in single-walled carbon nanotube heterojunctions with fullerene acceptor layers. Physical Review B, 2015, 91, .	1.1	31
59	Treating Poly(3-hexylthiophene) with Dimethylsulfate Improves Its Photoelectrical Properties. Chemistry of Materials, 2008, 20, 6307-6309.	3.2	30
60	Air-processed organic photovoltaic devices fabricated with hot press lamination. Organic Electronics, 2011, 12, 108-112.	1.4	29
61	Structure-Dependent Photophysics of First-Generation Phenyl-Cored Thiophene Dendrimers. Chemistry of Materials, 2009, 21, 287-297.	3.2	27
62	Conjugated Thiophene Dendrimer with an Electron-Withdrawing Core and Electron-Rich Dendrons: How the Molecular Structure Affects the Morphology and Performance of Dendrimer:Fullerene Photovoltaic Devices. Journal of Physical Chemistry C, 2010, 114, 22269-22276.	1.5	27
63	Semi-random vs Well-Defined Alternating Donorâ€“Acceptor Copolymers. ACS Macro Letters, 2014, 3, 622-627.	2.3	27
64	Free Carrier Generation in Organic Photovoltaic Bulk Heterojunctions of Conjugated Polymers with Molecular Acceptors: Planar versus Spherical Acceptors. ChemPhysChem, 2014, 15, 1539-1549.	1.0	27
65	A <i>p</i>â€Type Quantum Dot/Organic Donor:Acceptor Solarâ€Cell Structure for Extended Spectral Response. Advanced Energy Materials, 2011, 1, 528-533.	10.2	21
66	Photoinduced electron transfer in composites of conjugated polymers and dendrimers with branched colloidal nanoparticles. Faraday Discussions, 2012, 155, 323-337.	1.6	21
67	Impact of the Crystallite Orientation Distribution on Exciton Transport in Donorâ€“Acceptor Conjugated Polymers. ACS Applied Materials & Interfaces, 2015, 7, 28035-28041.	4.0	20
68	Panoramic View of Electrochemical Pseudocapacitor and Organic Solar Cell Research in Molecularly Engineered Energy Materials (MEEM). Journal of Physical Chemistry C, 2014, 118, 19505-19523.	1.5	19
69	Photoconductivity of CdTe Nanocrystal-Based Thin Films: Te^{2â€“} Ligands Lead To Charge Carrier Diffusion Lengths Over 2 Î¼m. Journal of Physical Chemistry Letters, 2015, 6, 4815-4821.	2.1	19
70	Photobleaching dynamics in small molecule <i>vs.</i>Âpolymer organic photovoltaic blends with 1,7-bis-trifluoromethylfullerene. Journal of Materials Chemistry A, 2018, 6, 4623-4628.	5.2	16
71	Application of an Aâ€“Aâ€²â€“A-Containing Acceptor Polymer in Sequentially Deposited All-Polymer Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 24046-24054.	4.0	16
72	Interâ€Fullerene Electronic Coupling Controls the Efficiency of Photoinduced Charge Generation in Organic Bulk Heterojunctions. Advanced Energy Materials, 2016, 6, 1601427.	10.2	15

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73	An inverted, organic WORM device based on PEDOT:PSS with very low turn-on voltage. Organic Electronics, 2014, 15, 1791-1798.	1.4	14
74	Structure and Conductivity of Semiconducting Polymer Hydrogels. Journal of Physical Chemistry B, 2016, 120, 6215-6224.	1.2	14
75	Control of charge separation by electric field manipulation in polymerâ€oxide hybrid organic photovoltaic bilayer devices. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1257-1265.	0.8	13
76	Comprehensive Performance Calibration Guidance for Perovskites and Other Emerging Solar Cells. Advanced Energy Materials, 2021, 11, 2100728.	10.2	13
77	Cyclopenta[c]thiopheneâ€4,6â€dioneâ€Based Copolymers as Organic Photovoltaic Donor Materials. Advanced Energy Materials, 2014, 4, 1301821.	10.2	12
78	Thermotropic Phase Transition of Benzodithiophene Copolymer Thin Films and Its Impact on Electrical and Photovoltaic Characteristics. Chemistry of Materials, 2015, 27, 1223-1232.	3.2	12
79	Modeling the Free Carrier Recombination Kinetics in PTB7:PCBM Organic Photovoltaics. Journal of Physical Chemistry C, 2016, 120, 24597-24604.	1.5	11
80	Simplified Models for Accelerated Structural Prediction of Conjugated Semiconducting Polymers. Journal of Physical Chemistry C, 2017, 121, 26528-26538.	1.5	11
81	Loss Mechanisms in Fullerene-Based Low-Donor Content Organic Solar Cells. Journal of Physical Chemistry C, 2018, 122, 20611-20618.	1.5	9
82	A faux hawk fullerene with PCBM-like properties. Chemical Science, 2015, 6, 1801-1815.	3.7	8
83	Enhanced lifetime in unencapsulated organic photovoltaics with air stable electrodes. , 2010, , .		6
84	Integrated optical and electrical modeling of plasmon-enhanced thin film photovoltaics: A case-study on organic devices. Journal of Applied Physics, 2014, 116, 114510.	1.1	6
85	Integrating nanostructured electrodes in organic photovoltaic devices for enhancing near-infrared photoresponse. Organic Electronics, 2016, 39, 59-63.	1.4	6
86	Molecular engineering to improve carrier lifetimes for organic photovoltaic devices with thick active layers. Organic Electronics, 2017, 47, 57-65.	1.4	6
87	How Useful are Conventional <i>Iâ€"V</i>s for Performance Calibration of Singleâ€and Twoâ€Junction Perovskite Solar Cells? A Statistical Analysis of Performance Data on â‰ˆ200 Cells from 30 Global Sources. Solar Rrl, 2022, 6, 2100867.	3.1	6
88	Flexible ITOâ€Free Organic Photovoltaics on Ultraâ€Thin Flexible Glass Substrates with High Efficiency and Improved Stability. Solar Rrl, 2019, 3, 1800286.	3.1	5
89	Reliable Power Rating of Perovskite PV Modules. , 2021, , .		4
90	Do the defects make it work? Defect engineering in pi-conjugated polymers and their solar cells. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	3

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91	Polymer Solar Cells: Inter-Fullerene Electronic Coupling Controls the Efficiency of Photoinduced Charge Generation in Organic Bulk Heterojunctions (Adv. Energy Mater. 24/2016). Advanced Energy Materials, 2016, 6, .	10.2	2
92	Investigating charge generation in polymer:non-fullerene acceptor bulk heterojunction films. Organic Electronics, 2018, 55, 177-186.	1.4	2
93	Detecting free carriers in organic photovoltaic systems: Time-resolved microwave conductivity. , 2011, , .		1
94	Surface plasmon enhanced infrared absorption in the sensitized polymer solar cell. , 2014, , .		1
95	Combining Indoor and Outdoor Measurements to Lower Uncertainty in PV Modules Performance. , 2020, , .		1
96	How Useful are Conventional <i>Iâ€“V</i>s for Performance Calibration of Singleâ€•and Twoâ€Junction Perovskite Solar Cells? A Statistical Analysis of Performance Data on â‰ˆ200 Cells from 30 Global Sources. Solar Rrl, 2022, 6, 2270013.	3.1	1
97	Diffusion-Limited Recombination in Dye-Sensitized TiO2 Solar Cells. Materials Research Society Symposia Proceedings, 2003, 789, 150.	0.1	0
98	Triphenylamine-based star-shaped absorbers with tunable energy levels for organic photovoltaics. , 2010, , .		0
99	Plasmonic Back Reflectors: A Small Molecule Non-fullerene Electron Acceptor for Organic Solar Cells. Advanced Energy Materials, 2011, 1, 72-72.	10.2	0
100	Thermal annealing affects vertical morphology, doping and defect density in BHJ OPV devices. , 2014, , .		0
101	Comprehensive device modeling of plasmon-enhanced and optical field-dependent photocurrent generation in organic bulk heterojunctions. , 2014, , .		0
102	Improving photoconductance of fluorinated donors with fluorinated acceptors. , 2016, , .		0
103	Distribution of the spectral response of cells in silicon modules â€“ mechanisms and implications. , 2021, , .		0
104	(Invited) Spectroscopic Signatures of Exciton Dissociation in Single-Walled Carbon Nanotube Photovoltaic Blends. ECS Meeting Abstracts, 2013, , .	0.0	0