Tsz-Ki Lau

List of Publications by Year
in descending order

68 papers	11,122 citations	81900 39 h-index	95266 68 g-index
68 all docs	68 docs citations	68 times ranked	5956 citing authors

#	Article	IF	Citations
1	Single-Junction Organic Solar Cell with over 15% Efficiency Using Fused-Ring Acceptor with Electron-Deficient Core. Joule, 2019, 3, 1140-1151.	24.0	4,052
2	Fused Nonacyclic Electron Acceptors for Efficient Polymer Solar Cells. Journal of the American Chemical Society, 2017, 139, 1336-1343.	13.7	813
3	Over 17% efficiency ternary organic solar cells enabled by two non-fullerene acceptors working in an alloy-like model. Energy and Environmental Science, 2020, 13, 635-645.	30.8	636
4	Fused Hexacyclic Nonfullerene Acceptor with Strong Nearâ€Infrared Absorption for Semitransparent Organic Solar Cells with 9.77% Efficiency. Advanced Materials, 2017, 29, 1701308.	21.0	364
5	Simple non-fused electron acceptors for efficient and stable organic solar cells. Nature Communications, 2019, 10, 2152.	12.8	348
6	A spirobifluorene and diketopyrrolopyrrole moieties based non-fullerene acceptor for efficient and thermally stable polymer solar cells with high open-circuit voltage. Energy and Environmental Science, 2016, 9, 604-610.	30.8	347
7	A monothiophene unit incorporating both fluoro and ester substitution enabling high-performance donor polymers for non-fullerene solar cells with 16.4% efficiency. Energy and Environmental Science, 2019, 12, 3328-3337.	30.8	337
8	Enhancing the Performance of Polymer Solar Cells via Core Engineering of NIRâ€Absorbing Electron Acceptors. Advanced Materials, 2018, 30, e1706571.	21.0	309
9	Fused Benzothiadiazole: A Building Block for nâ€Type Organic Acceptor to Achieve Highâ€Performance Organic Solar Cells. Advanced Materials, 2019, 31, e1807577.	21.0	297
10	16.7%-efficiency ternary blended organic photovoltaic cells with PCBM as the acceptor additive to increase the open-circuit voltage and phase purity. Journal of Materials Chemistry A, 2019, 7, 20713-20722.	10.3	266
11	Asymmetric Electron Acceptors for Highâ€Efficiency and Lowâ€Energyâ€Loss Organic Photovoltaics. Advanced Materials, 2020, 32, e2001160.	21.0	246
12	Realizing Small Energy Loss of 0.55 eV, High Openâ€Circuit Voltage >1 V and High Efficiency >10% in Fullereneâ€Free Polymer Solar Cells via Energy Driver. Advanced Materials, 2017, 29, 1605216.	21.0	230
13	Adding a Third Component with Reduced Miscibility and Higher LUMO Level Enables Efficient Ternary Organic Solar Cells. ACS Energy Letters, 2020, 5, 2711-2720.	17.4	188
14	Understanding Morphology Compatibility for High-Performance Ternary Organic Solar Cells. Chemistry of Materials, 2016, 28, 6186-6195.	6.7	150
15	Molecular Lock: A Versatile Key to Enhance Efficiency and Stability of Organic Solar Cells. Advanced Materials, 2016, 28, 5822-5829.	21.0	134
16	Manipulating the Mixedâ€Perovskite Crystallization Pathway Unveiled by In Situ GIWAXS. Advanced Materials, 2019, 31, e1901284.	21.0	127
17	Revealing the effects of molecular packing on the performances of polymer solar cells based on Aâ€“Dâ€“Câ€“Dâ€“A type non-fullerene acceptors. Journal of Materials Chemistry A, 2018, 6, 12132-12141.	10.3	119
18	Nearâ€Infrared Electron Acceptors with Fluorinated Regioisomeric Backbone for Highly Efficient Polymer Solar Cells. Advanced Materials, 2018, 30, e1803769.	21.0	116

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19	Low-temperature solution-processed NiO_xfilms for air-stable perovskite solar cells. Journal of Materials Chemistry A, 2017, 5, 11071-11077.	10.3	113
20	Fusedâ€Ring Electron Acceptor ITICâ€Th: A Novel Stabilizer for Halide Perovskite Precursor Solution. Advanced Energy Materials, 2018, 8, 1703399.	19.5	112
21	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
22	A non-fullerene acceptor with a fully fused backbone for efficient polymer solar cells with a high open-circuit voltage. Journal of Materials Chemistry A, 2016, 4, 14983-14987.	10.3	97
23	Molecular insights of exceptionally photostable electron acceptors for organic photovoltaics. Nature Communications, 2021, 12, 3049.	12.8	97
24	A Nearâ€Infrared Photoactive Morphology Modifier Leads to Significant Current Improvement and Energy Loss Mitigation for Ternary Organic Solar Cells. Advanced Science, 2018, 5, 1800755.	11.2	93
25	Nearâ€Infrared Nonfullerene Acceptors Based on Benzobis(thiazole) Unit for Efficient Organic Solar Cells with Low Energy Loss. Small Methods, 2019, 3, 1900531.	8.6	76
26	High efficiency ternary organic solar cell with morphology-compatible polymers. Journal of Materials Chemistry A, 2017, 5, 11739-11745.	10.3	74
27	The synergy of hostâ€“guest nonfullerene acceptors enables 16%-efficiency polymer solar cells with increased open-circuit voltage and fill-factor. Materials Horizons, 2019, 6, 2094-2102.	12.2	73
28	Non-fullerene Acceptors with a Thieno[3,4-c]pyrrole-4,6-dione (TPD) Core for Efficient Organic Solar Cells. Chinese Journal of Polymer Science (English Edition), 2019, 37, 1005-1014.	3.8	61
29	Achieving efficient organic solar cells and broadband photodetectors via simple compositional tuning of ternary blends. Nano Energy, 2019, 63, 103807.	16.0	59
30	Enhanced Charge Transfer between Fullerene and Non-Fullerene Acceptors Enables Highly Efficient Ternary Organic Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 42444-42452.	8.0	58
31	A Trialkylsilylthienyl Chain-Substituted Small-Molecule Acceptor with Higher LUMO Level and Reduced Band Gap for Over 16% Efficiency Fullerene-Free Ternary Solar Cells. Chemistry of Materials, 2019, 31, 8908-8917.	6.7	55
32	Enhanced intramolecular charge transfer of unfused electron acceptors for efficient organic solar cells. Materials Chemistry Frontiers, 2019, 3, 513-519.	5.9	53
33	A Novel Wideâ€Bandgap Polymer with Deep Ionization Potential Enables Exceeding 16% Efficiency in Ternary Nonfullerene Polymer Solar Cells. Advanced Functional Materials, 2020, 30, 1910466.	14.9	50
34	A 16.4% efficiency organic photovoltaic cell enabled using two donor polymers with their side-chains oriented differently by a ternary strategy. Journal of Materials Chemistry A, 2020, 8, 3676-3685.	10.3	48
35	A Medium Bandgap Dâ€“A Copolymer Based on 4-Alkyl-3,5-difluorophenyl Substituted Quinoxaline Unit for High Performance Solar Cells. Macromolecules, 2018, 51, 2838-2846.	4.8	47
36	Enhancing the performance of non-fullerene organic solar cells <i>via</i> end group engineering of fused-ring electron acceptors. Journal of Materials Chemistry A, 2018, 6, 16638-16644.	10.3	47

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37	Enhancement of intra- and inter-molecular Ï€-conjugated effects for a non-fullerene acceptor to achieve high-efficiency organic solar cells with an extended photoresponse range and optimized morphology. Materials Chemistry Frontiers, 2018, 2, 2006-2012.	5.9	46
38	Improved photon-to-electron response of ternary blend organic solar cells with a low band gap polymer sensitizer and interfacial modification. Journal of Materials Chemistry A, 2016, 4, 1702-1707.	10.3	45
39	Rhodanine flanked indacenodithiophene as non-fullerene acceptor for efficient polymer solar cells. Science China Chemistry, 2017, 60, 257-263.	8.2	42
40	An inverted planar solar cell with 13% efficiency and a sensitive visible light detector based on orientation regulated 2D perovskites. Journal of Materials Chemistry A, 2018, 6, 24633-24640.	10.3	38
41	A low-temperature formation path toward highly efficient Se-free Cu₂ZnSnS₄ solar cells fabricated through sputtering and sulfurization. CrystEngComm, 2016, 18, 1070-1077.	2.6	37
42	An asymmetric small molecule acceptor for organic solar cells with a short circuit current density over 24 mA cm^{âˆ’2}. Journal of Materials Chemistry A, 2020, 8, 15984-15991.	10.3	37
43	Nonhalogenated Solvent-Processed All-Polymer Solar Cells over 7.4% Efficiency from Quinoxaline-Based Polymers. ACS Applied Materials & Interfaces, 2018, 10, 41318-41325.	8.0	30
44	Modification of Mo Back Contact with MoO_{3âˆ’x} Layer and its Effect to Enhance the Performance of Cu₂ZnSnS₄ Solar Cells. Solar Rrl, 2018, 2, 1800243.	5.8	28
45	Combining Fusedâ€Ring and Unfusedâ€Core Electron Acceptors Enables Efficient Ternary Organic Solar Cells with Enhanced Fill Factor and Broad Compositional Tolerance. Solar Rrl, 2019, 3, 1900317.	5.8	28
46	Ternary morphology facilitated thick-film organic solar cell. RSC Advances, 2015, 5, 88500-88507.	3.6	27
47	Design of wide-bandgap polymers with deeper ionization potential enables efficient ternary non-fullerene polymer solar cells with 13% efficiency. Journal of Materials Chemistry A, 2019, 7, 14153-14162.	10.3	27
48	A non-fullerene acceptor enables efficient P3HT-based organic solar cells with small voltage loss and thickness insensitivity. Chinese Chemical Letters, 2019, 30, 1277-1281.	9.0	26
49	A Nonfullerene Acceptor with Alkylthioâ€•and Dimethoxyâ€Thiopheneâ€Groups Yielding Highâ€Performance Ternary Organic Solar Cells. Solar Rrl, 2020, 4, 1900353.	5.8	26
50	Medium-Bandgap Small-Molecule Donors Compatible with Both Fullerene and Nonfullerene Acceptors. ACS Applied Materials & Interfaces, 2018, 10, 9587-9594.	8.0	25
51	Charge carrier transport and nanomorphology control for efficient non-fullerene organic solar cells. Materials Today Energy, 2019, 12, 398-407.	4.7	23
52	Uncovering the out-of-plane nanomorphology of organic photovoltaic bulk heterojunction by GTSAXS. Nature Communications, 2021, 12, 6226.	12.8	23
53	Roles of Acceptor Guests in Tuning the Organic Solar Cell Property Based on an Efficient Binary Material System with a Nearly Zero Hole-Transfer Driving Force. Chemistry of Materials, 2020, 32, 5182-5191.	6.7	22
54	Enhancing Efficiency and Stability of Organic Solar Cells by UV Absorbent. Solar Rrl, 2017, 1, 1700148.	5.8	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	Realizing 8.6% Efficiency from Nonâ€Halogenated Solvent Processed Additive Free All Polymer Solar Cells with a Quinoxaline Based Polymer. Solar Rrl, 2019, 3, 1800340.	5.8	20
57	Constructing Dâ€“A copolymers based on thiophene-fused benzotriazole units containing different alkyl side-chains for non-fullerene polymer solar cells. Journal of Materials Chemistry C, 2017, 5, 8179-8186.	5.5	19
58	Simply planarizing nonfused perylene diimide based acceptors toward promising non-fullerene solar cells. Journal of Materials Chemistry C, 2019, 7, 8092-8100.	5.5	17
59	Soft Porous Blade Printing of Nonfullerene Organic Solar Cells. ACS Applied Materials & Interfaces, 2020, 12, 25843-25852.	8.0	17
60	Boosting the photovoltaic thermal stability of fullerene bulk heterojunction solar cells through charge transfer interactions. Journal of Materials Chemistry A, 2017, 5, 23662-23670.	10.3	15
61	Ternary Blending Driven Molecular Reorientation of Non-Fullerene Acceptor IDIC with Backbone Order. ACS Applied Energy Materials, 2020, 3, 10814-10822.	5.1	15
62	Influence of Bridging Groups on the Photovoltaic Properties of Wide-Bandgap Poly(BDTT-<i>alt</i>-BDD)s. ACS Applied Materials & Interfaces, 2019, 11, 1394-1401.	8.0	13
63	A Ladder-type Heteroheptacene 12<i>H</i>-Dithieno[2â€²,3â€²:4,5]thieno[3,2-<i>b</i>:2â€²,3â€²-<i>h</i>]fluorene Based D-A Copolymer with Strong Intermolecular Interactions toward Efficient Polymer Solar Cells. ACS Applied Materials & Interfaces, 2017, 9, 35159-35168.	8.0	11
64	Effects of Fluorination Position on Fusedâ€Ring Electron Acceptors. Small Structures, 2020, 1, 2000006.	12.0	8
65	Fused thienobenzene-thienothiophene electron acceptors for organic solar cells. Journal of Energy Chemistry, 2019, 37, 58-65.	12.9	7
66	Guided Formation of Large Crystals of Organic and Perovskite Semiconductors by an Ultrasonicated Dispenser and Their Application as the Active Matrix of Photodetectors. ACS Applied Materials & Interfaces, 2018, 10, 39921-39932.	8.0	6
67	New Route for Fabrication of High-Quality Zn(S,O) Buffer Layer at High Deposition Temperature on Cu(In,Ga)Se$_2$ Solar Cells. IEEE Journal of Photovoltaics, 2017, 7, 651-655.	2.5	5
68	A new random D-A copolymer based on two different benzotriazole units as co-acceptors for polymer solar cells. Polymer, 2018, 139, 123-129.	3.8	4