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Single-Junction Polymer Solar Cells with 16.35% Efficiency Enabled by a Platinum(II) Complexation Strategy

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#	Paper	IF	Citations
479	Boosting Efficiency and Stability of Organic Solar Cells Using Ultralow-Cost BiOCl Nanoplates as Hole Transporting Layers. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 33505-33514	9.5	38
478	Small Energy Loss and Broad Energy Levels Offsets Lead to Efficient Ternary Polymer Solar Cells from a Blend of Two Fullerene-Free Small Molecules as Electron Acceptors. 2019 , 7, 1900913		11
477	Achieving Small Exciton Binding Energies in Small Molecule Acceptors for Organic Solar Cells: Effect of Molecular Packing. 2019 , 10, 4888-4894		39
476	Recent progress of light manipulation strategies in organic and perovskite solar cells. 2019 , 11, 18517-18536		27
475	Strong light-matter coupling for reduced photon energy losses in organic photovoltaics. 2019 , 10, 3706		43
474	Near-Infrared Nonfullerene Acceptors Based on Benzobis(thiazole) Unit for Efficient Organic Solar Cells with Low Energy Loss. 2019 , 3, 1900531		50
473	Modulating the molecular packing and distribution enables fullerene-free ternary organic solar cells with high efficiency and long shelf-life. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 20139-20150	13	30
472	Recent Progress in All-Polymer Solar Cells Based on Wide-Bandgap p-Type Polymers. 2019 , 14, 3109-3118		13
471	A multi-objective optimization-based layer-by-layer blade-coating approach for organic solar cells: rational control of vertical stratification for high performance. 2019 , 12, 3118-3132		83
470	A two-dimensional halogenated thiophene side-chain strategy for balancing Voc and Jsc and improving efficiency of non-fullerene small molecule acceptor-based organic solar cells. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 20274-20284	13	27
469	Terpolymer Strategy toward High-Efficiency Polymer Solar Cells: Integrating Symmetric Benzodithiophene and Asymmetrical Thieno[2,3-f]benzofuran Segments. <i>Chemistry of Materials</i> , 2019 , 31, 6163-6173	9.6	39
468	A fully fused non-fullerene acceptor containing angular-shaped S,N-heteroacene and perylene diimide for additive-free organic solar cells. 2019 , 43, 13775-13782		3
467	A New Small-Molecule Donor Containing Non-Fused Ring Bridge Enables Efficient Organic Solar Cells with High Open Circuit Voltage and Low Acceptor Content. 2019 , 20, 2674-2682		4
466	Achieving Optimal Bulk Heterojunction in All-Polymer Solar Cells by Sequential Processing with Nonorthogonal Solvents. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 42438-42446	9.5	16
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462	Vacuum-Deposited Biternary Organic Photovoltaics. 2019 , 141, 18204-18210		14
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325	A Generally Applicable Approach Using Sequential Deposition to Enable Highly Efficient Organic Solar Cells. 2020 , 4, 2000687		56
324	Recent Advances Toward Highly Efficient Tandem Organic Solar Cells. 2020 , 1, 2000016		11
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322	An Insight into the Excitation States of Small Molecular Semiconductor Y6. 2020 , 25,		8
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320	Characterization and Electronic Properties of Heptazine Layers: Towards Promising Interfacial Materials for Organic Optoelectronics. 2020 , 13,		4
319	High-Efficiency Ternary Organic Solar Cells Based on the Synergized Polymeric and Small-Molecule Donors. <i>Solar Rrl</i> , 2020 , 4, 2000537	7.1	10

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316	Substitution Effect on Thiobarbituric Acid End Groups for High Open-Circuit Voltage Non-Fullerene Organic Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 41852-41860	9.5	11
315	Enabling High-Performance Tandem Organic Photovoltaic Cells by Balancing the Front and Rear Subcells. <i>Advanced Materials</i> , 2020 , 32, e2002315	24	16
314	Efficient Exciton Diffusion in Micrometer-Sized Domains of Nanographene-Based Nonfullerene Acceptors with Long Exciton Lifetimes in Blend Films with Conjugated Polymer. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 39236-39244	9.5	5
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312	Reducing VOC loss via structure compatible and high lowest unoccupied molecular orbital nonfullerene acceptors for over 17%-efficiency ternary organic photovoltaics. 2020 , 2, e12061		15
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309	Dibenzothiophene-S,S-dioxide-bispyridinium-fluorene-based polyelectrolytes for cathode buffer layers of polymer solar cells. 2020 , 11, 3605-3614		3
308	Effects of alkoxylation position on fused-ring electron acceptors. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 15128-15134	7.1	6
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304	Axisymmetric and Asymmetric Naphthalene-Bisthienothiophene Based Nonfullerene Acceptors: On Constitutional Isomerization and Photovoltaic Performance. <i>ACS Applied Energy Materials</i> , 2020 , 3, 5734-5744	6.1	10
303	Toward Efficient Triple-Junction Polymer Solar Cells through Rational Selection of Middle Cells. <i>ACS Energy Letters</i> , 2020 , 5, 1771-1779	20.1	13
302	Narrow Bandpass and Efficient Semitransparent Organic Solar Cells Based on Bioinspired Spectrally Selective Electrodes. 2020 , 14, 5998-6006		22
301	Organic solar cells based on small molecule donors and polymer acceptors operating at 150 °C. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 10983-10988	13	17

300	Asymmetric Electron Acceptors for High-Efficiency and Low-Energy-Loss Organic Photovoltaics. <i>Advanced Materials</i> , 2020 , 32, e2001160	24	162
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297	Appropriate Molecular Interaction Enabling Perfect Balance Between Induced Crystallinity and Phase Separation for Efficient Photovoltaic Blends. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 26286-26292	9.5	23
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295	Significantly Increasing the Power Conversion Efficiency by Controlling the Orientation of Nonfullerene Small Molecular Acceptors via Side Chain Engineering. <i>Solar Rrl</i> , 2020 , 4, 2000234	7.1	5
294	Fine-Tuning Energy Levels via Asymmetric End Groups Enables Polymer Solar Cells with Efficiencies over 17%. 2020 , 4, 1236-1247		237
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290	Recycled indium tin oxide transparent conductive electrode for polymer solar cells. 2020 , 55, 11403-11410		8
289	Tailoring Regioisomeric Structures of EConjugated Polymers Containing Monofluorinated EBridges for Highly Efficient Polymer Solar Cells. <i>ACS Energy Letters</i> , 2020 , 5, 2087-2094	20.1	63
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287	Chlorination: An Effective Strategy for High-Performance Organic Solar Cells. <i>Advanced Science</i> , 2020 , 7, 2000509	13.6	43
286	An oxygen heterocycle-fused fluorene based non-fullerene acceptor for high efficiency organic solar cells. <i>Materials Chemistry Frontiers</i> , 2020 , 4, 3594-3601	7.8	7
285	Naphthodithiophenediimide-Bithiopheneimide Copolymers for High-Performance n-Type Organic Thermoelectrics: Significant Impact of Backbone Orientation on Conductivity and Thermoelectric Performance. <i>Advanced Materials</i> , 2020 , 32, e2002060	24	51
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281	Recent advances in high-performance organic solar cells enabled by acceptor-donor-acceptor-donor-acceptor (A ⁺ D ⁻ A ⁺) type acceptors. <i>Materials Chemistry Frontiers</i> , 2020 , 4, 3487-3504	7.8	29
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275	Molecular Lock Induced by Chloroplatinic Acid Doping of PEDOT:PSS for High-Performance Organic Photovoltaics. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 30954-30961	9.5	21
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269	A Non-Fullerene Acceptor with Chlorinated Thieryl Conjugated Side Chains for High-Performance Polymer Solar Cells via Toluene Processing. 2020 , 38, 697-702		14
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267	An Alkoxy-Solubilizing Decacyclic Electron Acceptor for Efficient Ecofriendly As-Cast Blade-Coated Organic Solar Cells. <i>Solar Rrl</i> , 2020 , 4, 2000108	7.1	7
266	Asymmetric Siloxane Functional Side Chains Enable High-Performance Donor Copolymers for Photovoltaic Applications. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 17760-17768	9.5	13
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262	17.1%-Efficiency organic photovoltaic cell enabled with two higher-LUMO-level acceptor guests as the quaternary strategy. <i>Science China Chemistry</i> , 2020 , 63, 490-496	7.9	34
261	Organic solar cells based on chlorine functionalized benzo[1,2-b:4,5-b']difuran-benzo[1,2-c:4,5-c']dithiophene-4,8-dione copolymer with efficiency exceeding 13%. <i>Science China Chemistry</i> , 2020 , 63, 483-489	7.9	5
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259	Performance improvement of polymer solar cells with binary additives induced morphology optimization and interface modification simultaneously. <i>Solar Energy</i> , 2020 , 201, 330-338	6.8	8
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255	Enhanced efficiency and stability of nonfullerene ternary polymer solar cells based on a spontaneously assembled active layer: the role of a high mobility small molecular electron acceptor. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 6196-6202	7.1	16
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253	A naphthodithiophene-based nonfullerene acceptor for high-performance polymer solar cells with a small energy loss. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 6513-6520	7.1	10
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251	Single-Junction Organic Photovoltaic Cells with Approaching 18% Efficiency. <i>Advanced Materials</i> , 2020 , 32, e1908205	24	896
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248	Charge density modulation on asymmetric fused-ring acceptors for high-efficiency photovoltaic solar cells. <i>Materials Chemistry Frontiers</i> , 2020 , 4, 1747-1755	7.8	11
247	Exploiting Ternary Blends for Improved Photostability in High-Efficiency Organic Solar Cells. <i>ACS Energy Letters</i> , 2020 , 5, 1371-1379	20.1	83

246	Organic Solar Cells' Efficiency Enhanced by Perylene Monoimide Phosphorus Salt Cathode Interfacial Layer. 2020 , 8, 2000072		7
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240	Recent advances in morphology optimizations towards highly efficient ternary organic solar cells. 2020 , 1, 30-58		30
239	An asymmetrical fused-ring electron acceptor designed by a cross-conceptual strategy achieving 15.6% efficiency. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 14583-14591	13	19
238	Efficient and Reproducible Monolithic Perovskite/Organic Tandem Solar Cells with Low-Loss Interconnecting Layers. 2020 , 4, 1594-1606		57
237	Exceptionally low charge trapping enables highly efficient organic bulk heterojunction solar cells. 2020 , 13, 2422-2430		86
236	Recent advances and comprehensive insights on nickel oxide in emerging optoelectronic devices. <i>Sustainable Energy and Fuels</i> , 2020 , 4, 4415-4458	5.8	10
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230	Enhanced photovoltaic effect from naphtho[2,3-c]thiophene-4,9-dione-based polymers through alkyl side chain induced backbone distortion. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 14706-14712	13	7
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227	High-performance all-polymer solar cells with only 0.47 eV energy loss. <i>Science China Chemistry</i> , 2020 , 63, 1449-1460	7.9	39
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223	Realizing Ultrahigh Mechanical Flexibility and >15% Efficiency of Flexible Organic Solar Cells via a "Welding" Flexible Transparent Electrode. <i>Advanced Materials</i> , 2020 , 32, e1908478	24	133
222	Bromination: An Alternative Strategy for Non-Fullerene Small Molecule Acceptors. <i>Advanced Science</i> , 2020 , 7, 1903784	13.6	46
221	Significantly Enhanced Molecular Stacking in Ternary Bulk Heterojunctions Enabled by an Appropriate Side Group on Donor Polymer. <i>Advanced Science</i> , 2020 , 7, 1903455	13.6	28
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219	Boosting Performance of Non-Fullerene Organic Solar Cells by 2D g-C ₃ N ₄ Doped PEDOT:PSS. <i>Advanced Functional Materials</i> , 2020 , 30, 1910205	15.6	55
218	Trifluoromethyl Group-Modified Non-Fullerene Acceptor toward Improved Power Conversion Efficiency over 13% in Polymer Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 11543-11550	15.5	24
217	Delayed Fluorescence Emitter Enables Near 17% Efficiency Ternary Organic Solar Cells with Enhanced Storage Stability and Reduced Recombination Energy Loss. <i>Advanced Functional Materials</i> , 2020 , 30, 1909837	15.6	75
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211	Fluorinated solid additives enable high efficiency non-fullerene organic solar cells. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 4230-4238	13	30

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206	Complementary light absorption and efficient exciton dissociation lead to efficient and excellent ternary polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 3211-3221	13	12
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203	Highly efficient quaternary organic photovoltaics by optimizing photogenerated exciton distribution and active layer morphology. <i>Nano Energy</i> , 2020 , 70, 104496	17.1	70
202	A 16.4% efficiency organic photovoltaic cell enabled using two donor polymers with their side-chains oriented differently by a ternary strategy. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 3676-3685	13	37
201	Alloy-like ternary polymer solar cells with over 17.2% efficiency. 2020 , 65, 538-545		180
200	Nonfullerene Ternary Organic Solar Cell with Effective Charge Transfer between Two Acceptors. 2020 , 11, 927-934		21
199	Weak Makes It Powerful: The Role of Cognate Small Molecules as an Alloy Donor in 2D/1A Ternary Fullerene Solar Cells for Finely Tuned Hierarchical Morphology in Thick Active Layers. 2020 , 4, 1900766		14
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197	Barrierless Free Charge Generation in the High-Performance PM6:Y6 Bulk Heterojunction Non-Fullerene Solar Cell. <i>Advanced Materials</i> , 2020 , 32, e1906763	24	169
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191	Built-in voltage enhanced by in situ electrochemical polymerized undoped conjugated hole-transporting modifiers in organic solar cells. <i>Journal of Materials Chemistry C</i> , 2020 , 8, 2676-2681	7.1	6
190	An Ultraviolet-Deposited MoO ₃ Film as Anode Interlayer for High-Performance Polymer Solar Cells. <i>Advanced Materials Interfaces</i> , 2020 , 7, 1901912	4.6	8
189	Improving Active Layer Morphology of All-Polymer Solar Cells by Solution Temperature. <i>Macromolecules</i> , 2020 , 53, 3325-3331	5.5	31
188	Asymmetric Acceptors with Fluorine and Chlorine Substitution for Organic Solar Cells toward 16.83% Efficiency. <i>Advanced Functional Materials</i> , 2020 , 30, 2000456	15.6	117
187	Low-Bandgap n-Type Polymer Based on a Fused-DAD-Type Heptacyclic Ring for All-Polymer Solar Cell Application with a Power Conversion Efficiency of 10.7%. 2020 , 9, 706-712		43
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185	Comparison of Fused-Ring Electron Acceptors with One- and Multidimensional Conformations. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 23976-23983	9.5	7
184	Developing Wide Bandgap Polymers Based on Sole Benzodithiophene Units for Efficient Polymer Solar Cells. <i>Chemistry - A European Journal</i> , 2020 , 26, 11241-11249	4.8	7
183	Vacuum-Free, All-Solution, and All-Air Processed Organic Photovoltaics with over 11% Efficiency and Promoted Stability Using Layer-by-Layer Codoped Polymeric Electrodes. <i>Solar Rrl</i> , 2020 , 4, 1900543	7.1	15
182	A wide-bandgap nonplanar small molecule acceptor having indenofluorene core for non-fullerene polymer solar cells. <i>Dyes and Pigments</i> , 2020 , 180, 108409	4.6	5
181	New Phase for Organic Solar Cell Research: Emergence of Y-Series Electron Acceptors and Their Perspectives. <i>ACS Energy Letters</i> , 2020 , 5, 1554-1567	20.1	301
180	Reducing the Singlet-Triplet Energy Gap by End-Group H ₂ Stacking Toward High-Efficiency Organic Photovoltaics. <i>Advanced Materials</i> , 2020 , 32, e2000975	24	32
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