Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells

DOI: 10.1021/jacs.7b02677
Journal of the American Chemical Society, 2017, 139, 7148-715

#	Paper	IF	Citations
2260	Modulating Molecular Orientation Enables Efficient Nonfullerene Small-Molecule Organic Solar Cells.		
2259	Novel Nitrogen-Containing Heterocyclic Non-Fullerene Acceptors for Organic PhotovoltaicCells: Different End-Capping Groups Leading to a Big Difference of Power Conversion Efficiencies.		
2258	Ternary Organic Solar Cells with Small Nonradiative Recombination Loss.		
2257	A Wide-Band Gap Copolymer Donor for Efficient Fullerene-Free Solar Cells.		
2256	14.7% Efficiency Organic Photovoltaic Cells Enabled by Active Materials with a Large Electrostatic Potential Difference.		
2255	Hybridization of Local Exciton and Charge-Transfer States Reduces Nonradiative Voltage Losses in Organic Solar Cells.		
2254	Effects of Fluorination on Exciton Binding Energy and Charge Transport of Conjugated Donor Polymers and the ITIC Molecular Acceptor: A Theoretical Study.		
2253	High-Performance Ternary Organic Solar Cells with Controllable Morphology via Sequential Layer-by-Layer Deposition.		
2252	Highly Efficient Fullerene-Free Organic Solar Cells Operate at Near Zero Highest Occupied Molecular Orbital Offsets.		
2251	Fluorination Effects on Indacenodithienothiophene Acceptor Packing and Electronic Structure, End-Group Redistribution, and Solar Cell Photovoltaic Response.		
2250	Breaking 10% Efficiency in Semitransparent Solar Cells with Fused-Undecacyclic Electron Acceptor.		
2249	High-Performance Polymer Solar Cells with Minimal Energy Loss Enabled by a Main-Chain-Twisted Nonfullerene Acceptor.		
2248	Subtle side-chain tuning on terminal groups of small molecule electron acceptors for efficient fullerene-free polymer solar cells. **2017**, 5, 15175-15182		47
2247	Non-fullerene acceptors based on fused-ring oligomers for efficient polymer solar cells via complementary light-absorption. **2017**, 5, 23926-23936		57
2246	26 mA cm⁻² Jsc from organic solar cells with a low-bandgap nonfullerene acceptor. **2017**, 62, 1494-1496		316
2245	Efficient PbS quantum dot solar cells employing a conventional structure. **2017**, 5, 23960-23966		77
2244	Printing-friendly sequential deposition via intra-additive approach for roll-to-roll process of perovskite solar cells. **2017**, 41, 443-451		79

2225	Fused-Ring Acceptors with Asymmetric Side Chains for High-Performance Thick-Film Organic Solar Cells. **2017**, 29, 1703527	204
2224	Improved Domain Size and Purity Enables Efficient All-Small-Molecule Ternary Solar Cells. **2017**, 29, 1703777	83
2223	Effect of Donor Groups on the Performance of Cyclometalated Ruthenium Sensitizers in Dye-Sensitized Solar Cells. **2017**, 56, 13437-13445	9
2222	Highly Efficient Ternary-Blend Polymer Solar Cells Enabled by a Nonfullerene Acceptor and Two Polymer Donors with a Broad Composition Tolerance. **2017**, 29, 1704271	196
2221	Pyridine-incorporated alcohol-soluble neutral polyfluorene derivatives as efficient cathode-modifying layers for polymer solar cells. **2017**, 8, 6720-6732	6
2220	Additive Driven Increase in Donor□Acceptor Copolymer Coupling Studied by X-ray Resonant Photoemission. **2017**, 121, 25187-25194	7
2219	Regular conjugated D□A copolymer containing two benzotriazole and benzothiadiazole acceptors and dithienosilole donor units for photovoltaic application. **2017**, 7, 49204-49214	3
2218	Impact of Active Layer Morphology on Bimolecular Recombination Dynamics in Organic Solar Cells. **2017**, 121, 24954-24961	23
2217	Design of a New Small-Molecule Electron Acceptor Enables Efficient Polymer Solar Cells with High Fill Factor. **2017**, 29, 1704051	200
2216	Improved Glass Transition Temperature towards Thermal Stability via Thiols Solvent Additive versus DIO in Polymer Solar Cells. **2017**, 38, 1700428	26
2215	Synthesis, properties, and photovoltaic characteristics of p-type donor copolymers having fluorine-substituted benzodioxocyclohexene-annelated thiophene. **2017**, 5, 19773-19780	8
2214	Efficient non-fullerene polymer solar cells based on a wide bandgap polymer of meta-alkoxy-phenyl-substituted benzodithiophene and difluorobenzotriazole. **2017**, 5, 19680-19686	24
2213	Two-Dimensional BDT-Based Wide Band Gap Polymer Donor for Efficient Non-Fullerene Organic Solar Cells. **2017**, 121, 19634-19641	16
2212	2D/1A Strategy to Regulate Film Morphology for Efficient and Stable Nonfullerene Organic Solar Cells. **2017**, 50, 6954-6960	17
2211	An A-D-A Type Small-Molecule Electron Acceptor with End-Extended Conjugation for High Performance Organic Solar Cells. **2017**, 29, 7908-7917	119
2210	Side Chain Engineering on Medium Bandgap Copolymers to Suppress Triplet Formation for High-Efficiency Polymer Solar Cells. **2017**, 29, 1703344	182
2209	Enhancing the Photovoltaic Performance via Vertical Phase Distribution Optimization in Small Molecule:PC71BM Blends. **2017**, 7, 1701548	40
2208	Design of Donor Polymers with Strong Temperature-Dependent Aggregation Property for Efficient Organic Photovoltaics. **2017**, 50, 2519-2528	176

2207	Investigating Working Mechanism of Metallophthalocyanine Derivatives as a Cathode Interlayer in Polymer Solar Cells by Photoemission Spectroscopy. **2017**, 121, 21244-21251		1
2206	New Fluorinated Dithienyldiketopyrrolopyrrole Monomers and Polymers for Organic Electronics. **2017**, 50, 7080-7090		41
2205	Small Molecule Near-Infrared Boron Dipyrromethene Donors for Organic Tandem Solar Cells. *Journal of the American Chemical Society*, **2017**, 139, 13636-13639	16.4	56
2204	Washing away barriers. **2017**, 2, 772-773		10
2203	Influence of the replacement of alkoxyl with alkylthienyl on photovoltaic properties of two small molecule donors for organic solar cells. **2017**, 60, 1340-1348		19
2202	Pentaerythritol based push□pull tetramers for organic photovoltaics. **2017**, 1, 1921-1927		11
2201	Ultrafast Exciton Migration and Dissociation in □Conjugated Polymers Driven by Local Nonuniform Electric Fields. **2017**, 121, 20546-20552		15
2200	9.0% power conversion efficiency from ternary all-polymer solar cells. **2017**, 10, 2212-2221		179
2199	Conjugated Polymers Based on Difluorobenzoxadiazole toward Practical Application of Polymer Solar Cells. **2017**, 7, 1702033		30
2198	Side-Chain Effects on Energy-Level Modulation and Device Performance of Organic Semiconductor Acceptors in Organic Solar Cells. **2017**, 9, 34146-34152		36
2197	Chalcogen-Atom-Annulated Perylene Diimide Trimers for Highly Efficient Nonfullerene Polymer Solar Cells. **2017**, 38, 1700405		17
2196	A Novel BODIPY-Based Low-Band-Gap Small-Molecule Acceptor for Efficient Non-fullerene Polymer Solar Cells. **2017**, 35, 1813-1823		19
2195	Intermixing Effect on Electronic Structures of TQ1:PC71BM Bulk Heterojunction in Organic Photovoltaics. **2017**, 1, 1700142		5
2194	Plasmonic Effect of Gold Nanostars in Highly Efficient Organic and Perovskite Solar Cells. **2017**, 9, 36111-36118		62
2193	Highly efficient and thickness-tolerable bulk heterojunction polymer solar cells based on P3HT donor and a low-bandgap non-fullerene acceptor. **2017**, 364, 426-431		6
2192	Design and synthesis of low band gap non-fullerene acceptors for organic solar cells with impressively high Jsc over 21 mA cm_2. **2017**, 60, 819-828		26
2191	Acceptor-rich bulk heterojunction polymer solar cells with balanced charge mobilities. **2017**, 51, 16-24		11
2190	D-A structural protean small molecule donor materials for solution-processed organic solar cells. **2017**, 28, 2065-2077		12

2189	The Curious Case of Fluorination of Conjugated Polymers for Solar Cells. **2017**, 50, 2401-2409	237
2188	Intermediate-Sized Conjugated Donor Molecules for Organic Solar Cells: Comparison of Benzodithiophene and Benzobisthiazole-Based Cores. **2017**, 29, 7880-7887	14
2187	Versatile Device Architectures for High-Performing Light-Soaking-Free Inverted Polymer Solar Cells. **2017**, 9, 32678-32687	17
2186	Non-halogenated solvent-processed single-junction polymer solar cells with 9.91% efficiency and improved photostability. **2017**, 41, 27-34	33
2185	Crystalline Medium-Bandgap Light-Harvesting Donor Material Based on Naphthalene Asymmetric-Modified Benzodithiophene Moiety toward Efficient Polymer Solar Cells. **2017**, 29, 8249-8257	30
2184	Organic solar cells based on a Cu2O/FBT-TH4 anode buffer layer with enhanced power conversion efficiency and ambient stability. **2017**, 5, 8033-8040	7
2183	High-Performance Polymer Solar Cells Employing Rhodamines as Cathode Interfacial Layers. **2017**, 9, 27083-27089	14
2182	New small-molecule acceptors based on hexacyclic naphthalene(cyclopentadithiophene) for efficient non-fullerene organic solar cells. **2017**, 5, 17204-17210	65
2181	Simultaneous Increase in Open-Circuit Voltage and Efficiency of Fullerene-Free Solar Cells through Chlorinated Thieno[3,4-b]thiophene Polymer Donor. **2017**, 2, 1971-1977	45
2180	Energy transfer within small molecule/conjugated polymer blends enhances photovoltaic efficiency. **2017**, 5, 18053-18063	41
2179	Ladder-type nonacyclic indacenodithieno[3,2-b]indole for highly efficient organic field-effect transistors and organic photovoltaics. **2017**, 5, 8988-8998	9
2178	High-performance nonfullerene polymer solar cells with open-circuit voltage over 1 V and energy loss as low as 0.54 eV. **2017**, 40, 20-26	58
2177	Ternary Organic Solar Cells with Coumarin7 as the Donor Exhibiting Greater Than 10% Power Conversion Efficiency and a High Fill Factor of 75. **2017**, 9, 29907-29916	29
2176	Performance limitations in thieno[3,4-c]pyrrole-4,6-dione-based polymer:ITIC solar cells. **2017**, 19, 23990-23998	27
2175	Fluorene Side-Chained Benzodithiophene Polymers for Low Energy Loss Solar Cells. **2017**, 50, 6880-6887	24
2174	Degradation of fill factor in P3HT:PCBM based organic solar cells. **2017**, 17, 1450-1454	6
2173	A Three-dimensional Non-fullerene Small Molecule Acceptor for Solution-processed Organic Solar Cells. **2017**, 35, 1687-1692	27
2172	Impact of the number of fluorine atoms on crystalline, physicochemical and photovoltaic properties of low bandgap copolymers based on 1,4-dithienylphenylene and diketopyrrolopyrrole. **2017**, 125, 217-226	12

2171	Diketopyrrolopyrrole-Based Conjugated Polymers with Perylene Bisimide Side Chains for Single-Component Organic Solar Cells. **2017**, 29, 7073-7077		63
2170	All-Small-Molecule Nonfullerene Organic Solar Cells with High Fill Factor and High Efficiency over 10%. **2017**, 29, 7543-7553		164
2169	Environmentally-friendly solvent processed fullerene-free organic solar cells enabled by screening halogen-free solvent additives. **2017**, 60, 697-706		22
2168	Significant enhancement of photovoltaic performance through introducing S?N conformational locks. **2017**, 5, 21674-21678		70
2167	Non-fullerene polymer solar cells with VOC > 1 V based on fluorinated quinoxaline unit conjugated polymers. **2017**, 5, 8774-8781		25
2166	Versatile asymmetric thiophene/benzothiophene flanked diketopyrrolopyrrole polymers with ambipolar properties for OFETs and OSCs. **2017**, 8, 5603-5610		26
2165	"Double-Cable" Conjugated Polymers with Linear Backbone toward High Quantum Efficiencies in Single-Component Polymer Solar Cells. *Journal of the American Chemical Society*, **2017**, 139, 18647-18656	16.4	86
2164	Alcohol-Soluble Isoindigo Derivative IIDTh-NSB as a Novel Modifier of ZnO in Inverted Polymer Solar Cells. **2017**, 9, 42969-42977		13
2163	Diblock Copolymer PF-b-PDMAEMA as Effective Cathode Interfacial Material in Polymer Solar Cells. **2017**, 9, 42961-42968		8
2162	Enhancing Indacenodithiophene Acceptor Crystallinity via Substituent Manipulation Increases Organic Solar Cell Efficiency. **2017**, 29, 10294-10298		92
2161	Ultrafast Excited-State Energy Transfer in DTDCTB Dimers Embedded in a Crystal Environment: Quantum Dynamics with the Multilayer Multiconfigurational Time-Dependent Hartree Method. **2017**, 121, 27263-27273		8
2160	Synthesis of new 2,6-bis(6-fluoro-2-hexyl-2H-benzotriazol-4-yl)-4,4-bis(2-ethylhexyl)-4H-silolo[3,2-b:4,5-b']dithiophene based D-A conjugated terpolymers for photovoltaic application. **2017**, 133, 195-204		3
2159	High Efficiency Near-Infrared and Semitransparent Non-Fullerene Acceptor Organic Photovoltaic Cells. *Journal of the American Chemical Society*, **2017**, 139, 17114-17119	16.4	312
2158	Enhancing Efficiency and Stability of Organic Solar Cells by UV Absorbent. **2017**, 1, 1700148		13
2157	Ultrafast Long-Range Charge Separation in Nonfullerene Organic Solar Cells. **2017**, 11, 12473-12481		59
2156	A Designed Ladder-Type Heteroarene Benzodi(Thienopyran) for High-Performance Fullerene-Free Organic Solar Cells. **2017**, 1, 1700165		23
2155	High open-circuit voltage and short-circuit current flexible polymer solar cells using ternary blends and ultrathin Ag-based transparent electrodes. **2017**, 5, 25476-25484		25
2154	Incorporating an Electrode Modification Layer with a Vertical Phase Separated Photoactive Layer for Efficient and Stable Inverted Nonfullerene Polymer Solar Cells. **2017**, 9, 43871-43879		17

2153	Layer-by-Layer Assembly of Multilayer Thin Films for Organic Optoelectronic Devices. **2017**, 1, 1700264		29
2152	Wide bandgap small molecular acceptors for low energy loss organic solar cells. **2017**, 5, 12591-12596		32
2151	Design Principles and Top Non-Fullerene Acceptor Candidates for Organic Photovoltaics. **2017**, 1, 857-870		120
2150	A simple fluorene core-based non-fullerene acceptor for high performance organic solar cells. **2017**, 53, 12790-12793		27
2149	Interfacial disorder in efficient polymer solar cells: the impact of donor molecular structure and solvent additives. **2017**, 5, 24749-24757		48
2148	Bis(naphthothiophene diimide)indacenodithiophenes as Acceptors for Organic Photovoltaics. **2017**, 29, 9618-9622		26
2147	Ring-Fusion of Perylene Diimide Acceptor Enabling Efficient Nonfullerene Organic Solar Cells with a Small Voltage Loss. *Journal of the American Chemical Society*, **2017**, 139, 16092-16095	16.4	249
2146	Toward Over 15% Power Conversion Efficiency for Organic Solar Cells: Current Status and Perspectives. **2017**, 1, 1700258		114
2145	Synthesis and Photovoltaic Properties of a Series of Narrow Bandgap Organic Semiconductor Acceptors with Their Absorption Edge Reaching 900 nm. **2017**, 29, 10130-10138		83
2144	Phthalimide-Based Wide Bandgap Donor Polymers for Efficient Non-Fullerene Solar Cells. **2017**, 50, 8928-8937		26
2143	Photo-degradation of high efficiency fullerene-free polymer solar cells. **2017**, 9, 18788-18797		40
2142	High dielectric constant conjugated materials for organic photovoltaics. **2017**, 5, 24037-24050		79
2141	Vinylene- and ethynylene-bridged perylene diimide dimers as nonfullerene acceptors for polymer solar cells. **2017**, 146, 143-150		11
2140	Siloles in optoelectronic devices. **2017**, 5, 7375-7389		44
2139	Automatic High-Throughput Screening Scheme for Organic Photovoltaics: Estimating the Orbital Energies of Polymers from Oligomers and Evaluating the Photovoltaic Characteristics. **2017**, 121, 28275-28286		17
2138	Revealing Minor Electrical Losses in the Interconnecting Layers of Organic Tandem Solar Cells. **2017**, 4, 1700776		13
2137	The Effect of Donor and Nonfullerene Acceptor Inhomogeneous Distribution within the Photoactive Layer on the Performance of Polymer Solar Cells with Different Device Structures. **2017**, 9,		16
2136	Wide Band Gap Polymer Based on Indacenodithiophene and Acenaphthoquinoxaline for Efficient Polymer Solar Cells Application. **2017**, 9,		8

2135	Knowledge Domain and Emerging Trends in Organic Photovoltaic Technology: A Scientometric Review Based on CiteSpace Analysis. **2017**, 5, 67	41
2134	Charging Characteristics of Lithium Ion Battery Using Semi-Solar Modules of Polymer:Fullerene Solar Cells. **2017**, 10, 1886	3
2133	Extremely Efficient Design of Organic Thin Film Solar Cells via Learning-Based Optimization. **2017**, 10, 1981	5
2132	Zwitter-Ionic Polymer Applied as Electron Transportation Layer for Improving the Performance of Polymer Solar Cells. **2017**, 9,	9
2131	Nonhalogen Solvent-Processed Asymmetric Wide-Bandgap Polymers for Nonfullerene Organic Solar Cells with Over 10% Efficiency. **2018**, 28, 1706517	57
2130	Organic polymeric and small molecular electron acceptors for organic solar cells. **2018**, 124, 1-57	55
2129	Nonradiative Energy Transfer between Porphyrin and Copolymer in Films Processed by Organic Solvent and Water-Dispersible Nanoparticles with Photovoltaic Applications. **2018**, 122, 5796-5804	8
2128	Dye-Incorporated Polynaphthalenediimide Acceptor for Additive-Free High-Performance All-Polymer Solar Cells. **2018**, 130, 4670-4674	9
2127	Dye-Incorporated Polynaphthalenediimide Acceptor for Additive-Free High-Performance All-Polymer Solar Cells. **2018**, 57, 4580-4584	99
2126	Polythiophenes with carboxylate side chains and vinylene linkers in main chain for polymer solar cells. **2018**, 140, 89-95	8
2125	Effect of Replacing Alkyl Side Chains with Triethylene Glycols on Photovoltaic Properties of Easily Accessible Fluorene-Based Non-Fullerene Molecular Acceptors: Improve or Deteriorate?. **2018**, 1, 1276-1285	8
2124	8.0% Efficient all-polymer solar cells based on novel starburst polymer acceptors. **2018**, 61, 576-583	23
2123	A new perspective for organic solar cells: triplet nonfullerene acceptors. **2018**, 61, 637-638	3
2122	Surface engineering of ITO electrode with a functional polymer for PEDOT:PSS-free organic solar cells. **2018**, 57, 186-193	10
2121	Engineering the interconnecting layer for efficient inverted tandem polymer solar cells with absorption complementary fullerene and nonfullerene acceptors. **2018**, 180, 1-9	23
2120	Effect of Thieno[3,2-b]thiophene Ebridge on photovoltaic performance of a D-A copolymer of alkoxy-benzodithiophene-alt-fluoro-benzotriazole. **2018**, 55, 106-111	6
2119	Influence of alkyl chain length in S,N-heteropentacenes on the performance of organic solar cells. **2018**, 2, 959-968	14
2118	Next-generation organic photovoltaics based on non-fullerene acceptors. **2018**, 12, 131-142	1155

2117	Improving performance of organic solar cells by supplying additional acceptors to surface of bulk-heterojunction layers. **2018**, 6, 2793-2800	14
2116	Low Energy Loss of 0.57 eV and High Efficiency of 8.80% in Porphyrin-Based BHJ Solar Cells. **2018**, 1, 1304-1315	13
2115	Photobleaching dynamics in small molecule vs. polymer organic photovoltaic blends with 1,7-bis-trifluoromethylfullerene. **2018**, 6, 4623-4628	13
2114	Subnaphthalocyanines as Electron Acceptors in Polymer Solar Cells: Improving Device Performance by Modifying Peripheral and Axial Substituents. **2018**, 24, 6339-6343	17
2113	Effect of Benzene Rings Incorporation on Photovoltaic Performance of Indacenodithiophene-cored Molecular Acceptors. **2018**, 36, 306-310	3
2112	A Nonconjugated Zwitterionic Polymer: Cathode Interfacial Layer Comparable with PFN for Narrow-Bandgap Polymer Solar Cells. **2018**, 39, e1700828	14
2111	Conductivity enhancement of PEDOT:PSS film via sulfonic acid modification: application as transparent electrode for ITO-free polymer solar cells. **2018**, 61, 1179-1186	10
2110	Ternary thick active layer for efficient organic solar cells. **2018**, 53, 8398-8408	5
2109	Patching defects in the active layer of large-area organic solar cells. **2018**, 6, 5817-5824	8
2108	Tuning the Molecular Weight of the Electron Accepting Polymer in All-Polymer Solar Cells: Impact on Morphology and Charge Generation. **2018**, 28, 1707185	51
2107	Benzothiadiazole Substituted Semiconductor Molecules for Organic Solar Cells: The Effect of the Solvent Annealing Over the Thin Film Hole Mobility Values. **2018**, 122, 13782-13789	11
2106	Medium-Bandgap Small-Molecule Donors Compatible with Both Fullerene and Nonfullerene Acceptors. **2018**, 10, 9587-9594	21
2105	Near-Infrared Harvesting Fullerene-Free All-Small-Molecule Organic Solar Cells Based on Porphyrin Donors. **2018**, 6, 5306-5313	28
2104	Enhanced performance of perovskite solar cells via anti-solvent nonfullerene Lewis base IT-4F induced trap-passivation. **2018**, 6, 5919-5925	91
2103	Structural Defects in Donor-Acceptor Blends: Influence on the Performance of Organic Solar Cells. **2018**, 9,	9
2102	Wide Bandgap Molecular Acceptors with a Truxene Core for Efficient Nonfullerene Polymer Solar Cells: Linkage Position on Molecular Configuration and Photovoltaic Properties. **2018**, 28, 1707493	68
2101	Highly efficient non-fullerene polymer solar cells enabled by novel non-conjugated small-molecule cathode interlayers. **2018**, 6, 6327-6334	35
2100	Figures of Merit Guiding Research on Organic Solar Cells. **2018**, 122, 5829-5843	30

2099	Intra-molecular Charge Transfer and Electron Delocalization in Non-fullerene Organic Solar Cells. **2018**, 10, 10043-10052	20
2098	Polymer Electron Acceptors Based on Fluorinated Isoindigo Unit for Polymer Solar Cells. **2018**, 36, 411-416	7
2097	Regulating the vertical phase distribution by fullerene-derivative in high performance ternary organic solar cells. **2018**, 46, 81-90	108
2096	STFTYT: A simple and broadly absorbing small molecule for efficient organic solar cells with a very low energy loss. **2018**, 57, 45-52	5
2095	Impact of Nonfullerene Acceptor Core Structure on the Photophysics and Efficiency of Polymer Solar Cells. **2018**, 3, 802-811	38
2094	Chemical and Morphological Control of Interfacial Self-Doping for Efficient Organic Electronics. **2018**, 30, e1705976	38
2093	Alternative Thieno[3,2-b][1]benzothiophene Isoindigo Polymers for Solar Cell Applications. **2018**, 39, e1700820	8
2092	Synthesis and characterization of low bandgap conjugated poly[(3-alkylylthiophene-2,5-diyl)-alt-(3-cyanothiophene-2,5-diyl)] by direct heteroarylation polymerization. **2018**, 138, 33-40	
2091	In-Depth Consideration of Vertically 3D Microstructured Bulk Heterojunction Layers via Solvent Vapor Annealing in DR3TSBDT:PC71BM Solar Cells. **2018**, 122, 6514-6525	3
2090	Accurate Measurement of New Type Non-silicon Solar Cells□Photoelectric Conversion Efficiency. **2018**, 972, 012017	1
2089	Vertical Stratification Engineering for Organic Bulk-Heterojunction Devices. **2018**, 12, 4440-4452	56
2088	A nonfullerene acceptor utilizing a novel asymmetric multifused-ring core unit for highly efficient organic solar cells. **2018**, 6, 4873-4877	60
2087	The Impact of Acceptor-Acceptor Homocoupling on the Optoelectronic Properties and Photovoltaic Performance of PDTSQx Low Bandgap Polymers. **2018**, 39, e1800086	6
2086	Photovoltaic polymers based on difluoroqinoxaline units with deep HOMO levels. **2018**, 56, 1489-1497	8
2085	Non-fullerene acceptors for large-open-circuit-voltage and high-efficiency organic solar cells. **2018**, 1, 47-59	7
2084	Triphenylamine-Based Push□Pull □60 Dyad As Photoactive Molecular Material for Single-Component Organic Solar Cells: Synthesis, Characterizations, and Photophysical Properties. **2018**, 30, 3474-3485	43
2083	Suppressing Thermally Induced Fullerene Aggregation in Organic Solar Cells by Employing Plastic Network. **2018**, 122, 9843-9851	21
2082	Charge Transfer and Collection in Dilute Organic Donor-Acceptor Heterojunction Blends. **2018**, 18, 3180-3184	20

2081	High fabrication yield organic tandem photovoltaics combining vacuum- and solution-processed subcells with 15% efficiency. **2018**, 3, 422-427	404
2080	High-efficiency organic solar cells based on a small-molecule donor and a low-bandgap polymer acceptor with strong absorption. **2018**, 6, 9613-9622	21
2079	A new nonfullerene acceptor based on perylene diimides for organic solar cells. **2018**, 29, 10362-10368	11
2078	End-group tuning of DTBDT-based small molecules for organic photovoltaics. **2018**, 157, 93-100	12
2077	Recent advances in semi-transparent polymer and perovskite solar cells for power generating window applications. **2018**, 11, 1688-1709	202
2076	Charge Transfer Switching in Donor-Acceptor Systems Based on BN-Fused Naphthalimides. **2018**, 83, 5577-5587	19
2075	Highly efficient and highly stable terpolymer-based all-polymer solar cells with broad complementary absorption and robust morphology. **2018**, 6, 10095-10103	25
2074	Material challenges for solar cells in the twenty-first century: directions in emerging technologies. **2018**, 19, 336-369	102
2073	Solution-Processable Conjugated Polymers as Anode Interfacial Layer Materials for Organic Solar Cells. **2018**, 8, 1800022	71
2072	High-Performance All-Polymer Solar Cells Achieved by Fused Perylenediimide-Based Conjugated Polymer Acceptors. **2018**, 10, 15962-15970	35
2071	Constructing efficient organic photovoltaic devices with a spirobifluorene based water/alcohol-soluble cathode interlayer. **2018**, 42, 8960-8967	3
2070	A new copolymer based on a D$\overline{A}$ or D$\overline{A}\overline{A}$ repeat unit for polymer solar cells employing non-halogenated solvents. **2018**, 6, 9561-9568	8
2069	Thermally stable, highly efficient, ultraflexible organic photovoltaics. **2018**, 115, 4589-4594	80
2068	Blade-Cast Nonfullerene Organic Solar Cells in Air with Excellent Morphology, Efficiency, and Stability. **2018**, 30, e1800343	118
2067	n-Type core effect on perylene diimide based acceptors for panchromatic fullerene-free organic solar cells. **2018**, 156, 318-325	10
2066	The effect of polymer molecular weight on the performance of PTB7-Th:O-IDTBR non-fullerene organic solar cells. **2018**, 6, 9506-9516	54
2065	A non-fullerene all small molecule solar cell constructed with a diketopyrrolopyrrole-based acceptor having a power conversion efficiency higher than 9% and an energy loss of 0.54 eV. **2018**, 6, 11714-11724	38
2064	Self-assembled PCBM bilayers on graphene and HOPG examined by AFM and STM. **2018**, 29, 185703	2

2063	Carbonized Bamboo-Derived Carbon Nanodots as Efficient Cathode Interfacial Layers in High-Performance Organic Photovoltaics. **2018**, 5, 1800031		13
2062	Carrier Transport and Recombination in Efficient All-Small-Molecule Solar Cells with the Nonfullerene Acceptor IDTBR. **2018**, 8, 1800264		52
2061	Mixed Domains Enhance Charge Generation and Extraction in Bulk-Heterojunction Solar Cells with Small-Molecule Donors. **2018**, 8, 1702941		34
2060	Critical Role of Molecular Electrostatic Potential on Charge Generation in Organic Solar Cells. **2018**, 36, 491-494		125
2059	Chlorine substituted 2D-conjugated polymer for high-performance polymer solar cells with 13.1% efficiency via toluene processing. **2018**, 48, 413-420		212
2058	Cubic-Like Bimolecular Crystal Evolution and over 12% Efficiency in Halogen-Free Ternary Solar Cells. **2018**, 28, 1707278		21
2057	Silaindacenodithiophene-Based Fused-Ring Non-Fullerene Electron Acceptor for Efficient Polymer Solar Cells. **2018**, 36, 495-501		17
2056	Efficient Nonfullerene Polymer Solar Cells Enabled by Small-Molecular Acceptors with a Decreased Fused-Ring Core. **2018**, 2, 1700373		17
2055	Fine-tuning the side-chains of non-fullerene small molecule acceptors to match with appropriate polymer donors. **2018**, 6, 8586-8594		33
2054	Significant enhancement of the photovoltaic performance of organic small molecule acceptors via side-chain engineering. **2018**, 6, 7988-7996		36
2053	High-Performance Additive-/Post-Treatment-Free Nonfullerene Polymer Solar Cells via Tuning Molecular Weight of Conjugated Polymers. **2018**, 14, e1704491		16
2052	A Universal Route to Fabricate n-i-p Multi-Junction Polymer Solar Cells via Solution Processing. **2018**, 2, 1800018		11
2051	Hydrogen-Bonding Strategy to Optimize Charge Distribution of PC71BM and Enable a High Efficiency of 12.45% for Organic Solar Cells. **2018**, 2, 1800038		20
2050	A narrow-bandgap donor polymer for highly efficient as-cast non-fullerene polymer solar cells with a high open circuit voltage. **2018**, 58, 82-87		16
2049	Insight into correlation between molecular length and exciton dissociation, charge transport and recombination in Polymer: Oligomer based solar cells. **2018**, 58, 75-81		2
2048	Synthesis and photovoltaic properties of a simple non-fused small molecule acceptor. **2018**, 58, 133-138		19
2047	Enhancing the Power Conversion Efficiency for Polymer Solar Cells by Incorporating Luminescent Nanosolid Micelles as Light Converter. **2018**, 1, 1445-1454		4
2046	Disodium Benzodipyrrole Sulfonate as Neutral Hole-Transporting Materials for Perovskite Solar Cells. *Journal of the American Chemical Society*, **2018**, 140, 5018-5022	16.4	67

2045	A Highly Planar Nonfullerene Acceptor with Multiple Noncovalent Conformational Locks for Efficient Organic Solar Cells. **2018**, 2, 1700330	28
2044	BODIPY□iketopyrrolopyrrole□orphyrin conjugate small molecules for use in bulk heterojunction solar cells. **2018**, 6, 8449-8461	35
2043	Elucidating the key role of fluorine in improving the charge mobility of electron acceptors for non-fullerene organic solar cells by multiscale simulations. **2018**, 6, 4912-4918	25
2042	A Semitransparent Inorganic Perovskite Film for Overcoming Ultraviolet Light Instability of Organic Solar Cells and Achieving 14.03% Efficiency. **2018**, 30, e1800855	183
2041	A New Nonfullerene Acceptor with Near Infrared Absorption for High Performance Ternary-Blend Organic Solar Cells with Efficiency over 13. **2018**, 5, 1800307	96
2040	The Role of Mobility on Charge Generation, Recombination, and Extraction in Polymer-Based Solar Cells. **2018**, 8, 1703355	58
2039	A Donor Polymer Based on a Difluorinated Pentathiophene Unit Enabling Enhanced Performance for Nonfullerene Organic Solar Cells. **2018**, 2, 1700415	13
2038	Realizing Enhanced Efficiency in Nonhalogen Solvent Processed Ternary Polymer Solar Cells by Incorporating Compatible Polymer Donor. **2018**, 2, 1800060	22
2037	Effect of emissive quantum cluster consisting of 22 Au atoms on the performance of semi-transparent plastic solar cells under low intensity illumination. **2018**, 48, 518-525	11
2036	Molecular engineering of perylene-diimide-based polymer acceptors containing heteroacene units for all-polymer solar cells. **2018**, 58, 222-230	10
2035	Perylene Diimide-Based Zwitterion as the Cathode Interlayer for High-Performance Nonfullerene Polymer Solar Cells. **2018**, 10, 14986-14992	20
2034	Effect of Fluorination on the Photovoltaic Properties of Medium Bandgap Polymers for Polymer Solar Cells. **2018**, 36, 502-506	1
2033	Ternary polymer solar cells based on two highly efficient fullerene acceptors with high efficiency and stability under long-time thermal annealing treatment. **2018**, 274, 192-199	2
2032	Organic solar cells based on anthracene-containing PPE□PVs and non-fullerene acceptors. **2018**, 72, 1769-1778	5
2031	Fabrication and Characterization of Hybrid Organic-Inorganic Electron Extraction Layers for Polymer Solar Cells toward Improved Processing Robustness and Air Stability. **2018**, 10, 17309-17317	4
2030	A□A small molecule acceptors with ladder-type arenes for organic solar cells. **2018**, 6, 8839-8854	60
2029	Energy-effectively printed all-polymer solar cells exceeding 8.61% efficiency. **2018**, 46, 428-435	42
2028	Efficient ternary non-fullerene polymer solar cells with PCE of 11.92% and FF of 76.5%. **2018**, 11, 841-849	190

2027	Hyperbranched small-molecule electrolyte as cathode interfacial layers for improving the efficiency of organic photovoltaics. **2018**, 53, 7715-7724	3
2026	Fine-tuning blend morphology via alkylthio side chain engineering towards high performance non-fullerene polymer solar cells. **2018**, 696, 19-25	6
2025	Embedding a Diketopyrrolopyrrole-Based Cross-linking Interfacial Layer Enhances the Performance of Organic Photovoltaics. **2018**, 10, 8885-8892	13
2024	A highly efficient polymer non-fullerene organic solar cell enhanced by introducing a small molecule as a crystallizing-agent. **2018**, 21, 79-87	41
2023	A PCPDTTPD-based narrow bandgap conjugated polyelectrolyte for organic solar cells. **2018**, 137, 303-311	6
2022	Water-Processable Amphiphilic Low Band Gap Block Copolymer:Fullerene Blend Nanoparticles as Alternative Sustainable Approach for Organic Solar Cells. **2018**, 2, 1700155	14
2021	A new NIR absorbing DPP-based polymer for thick organic solar cells. **2018**, 6, 2957-2961	17
2020	Stable and Efficient Organo-Metal Halide Hybrid Perovskite Solar Cells via Conjugated Lewis Base Polymer Induced Trap Passivation and Charge Extraction. **2018**, 30, e1706126	192
2019	Post-Treatment-Free Main Chain Donor and Side Chain Acceptor (D-s-A) Copolymer for Efficient Nonfullerene Solar Cells with a Small Voltage Loss. **2018**, 39, e1700706	11
2018	A new random D-A copolymer based on two different benzotriazole units as co-acceptors for polymer solar cells. **2018**, 139, 123-129	2
2017	Thermostable single-junction organic solar cells with a power conversion efficiency of 14.62%. **2018**, 63, 340-342	240
2016	Non-fullerene acceptors for organic solar cells. **2018**, 3,	1634
2015	High performance as-cast semitransparent polymer solar cells. **2018**, 6, 4670-4677	37
2014	Benzothiadiazole-oligothiophene flanked dicyanomethylenated quinacridone for non-fullerene acceptors in polymer solar cells. **2018**, 42, 5005-5013	6
2013	A naphthodithieno[3,2-b]thiophene-based copolymer as a novel third component in ternary polymer solar cells with a simultaneously enhanced open circuit voltage, short circuit current and fill factor. **2018**, 42, 5314-5322	
2012	Design of asymmetric benzodithiophene based wide band-gap conjugated polymers toward efficient polymer solar cells promoted by a low boiling point additive. **2018**, 6, 2806-2813	16
2011	Small Molecule Interlayers in Organic Solar Cells. **2018**, 8, 1702730	45
2010	From Molecular Packing Structures to Electronic Processes: Theoretical Simulations for Organic Solar Cells. **2018**, 8, 1702743	73

2009	Effect of the Molecular Configuration of Perylene Diimide Acceptors on Charge Transfer and Device Performance. **2018**, 1, 833-840		13
2008	Glass Forming Acceptor Alloys for Highly Efficient and Thermally Stable Ternary Organic Solar Cells. **2018**, 8, 1702741		69
2007	The Physics of Small Molecule Acceptors for Efficient and Stable Bulk Heterojunction Solar Cells. **2018**, 8, 1703298		96
2006	Control of Geminate Recombination by the Material Composition and Processing Conditions in Novel Polymer: Nonfullerene Acceptor Photovoltaic Devices. **2018**, 122, 1253-1260		9
2005	Dithienopicenocarbazole-Based Acceptors for Efficient Organic Solar Cells with Optoelectronic Response Over 1000 nm and an Extremely Low Energy Loss. *Journal of the American Chemical Society*, **2018**, 140, 2054-2057	16.4	322
2004	The progress and prospects of non-fullerene acceptors in ternary blend organic solar cells. **2018**, 5, 206-221		100
2003	A Halogenation Strategy for over 12% Efficiency Nonfullerene Organic Solar Cells. **2018**, 8, 1702870		146
2002	Donor□cceptor photovoltaic polymers based on 1,4-dithienyl-2,5-dialkoxybenzene with intramolecular noncovalent interactions. **2018**, 56, 689-698		5
2001	Phenothiazine-based small-molecule organic solar cells with power conversion efficiency over 7% and open circuit voltage of about 1.0 V using solvent vapor annealing. **2018**, 20, 6321-6329		17
2000	Asymmetric triphenylamine-phenothiazine based small molecules with varying terminal acceptors for solution processed bulk-heterojunction organic solar cells. **2018**, 20, 6390-6400		9
1999	Two-dimensional benzo[1,2-b:4,5-b?]difuran-based wide bandgap conjugated polymers for efficient fullerene-free polymer solar cells. **2018**, 6, 4023-4031		30
1998	High-Efficiency Fullerene Solar Cells Enabled by a Spontaneously Formed Mesostructured CuSCN-Nanowire Heterointerface. **2018**, 5, 1700980		15
1997	How to determine optical gaps and voltage losses in organic photovoltaic materials. **2018**, 2, 538-544		129
1996	Conformation Locking on Fused-Ring Electron Acceptor for High-Performance Nonfullerene Organic Solar Cells. **2018**, 28, 1705095		88
1995	Molecular Consideration for Small Molecular Acceptors Based on Ladder-Type Dipyran: Influences of O-Functionalization and □Bridges. **2018**, 28, 1705927		45
1994	9,9'-Bifluorenylidene-Core Perylene Diimide Acceptors for As-Cast Non-Fullerene Organic Solar Cells: The Isomeric Effect on Optoelectronic Properties. **2018**, 24, 4149-4156		24
1993	Energy level modulation of non-fullerene acceptors enables efficient organic solar cells with small energy loss. **2018**, 6, 2468-2475		133
1992	Self-Doping Fullerene Electrolyte-Based Electron Transport Layer for All-Room-Temperature-Processed High-Performance Flexible Polymer Solar Cells. **2018**, 28, 1705847		51

1991	Efficient Ternary Polymer Solar Cells with Two Well-Compatible Donors and One Ultranarrow Bandgap Nonfullerene Acceptor. **2018**, 8, 1702854	177
1990	Nanoscale Domain Imaging of All-Polymer Organic Solar Cells by Photo-Induced Force Microscopy. **2018**, 12, 1473-1481	40
1989	The Critical Role of Anode Work Function in Non-Fullerene Organic Solar Cells Unveiled by Counterion-Size-Controlled Self-Doping Conjugated Polymers. **2018**, 30, 1078-1084	32
1988	High-Efficiency and Stable Organic Solar Cells Enabled by Dual Cathode Buffer Layers. **2018**, 10, 5682-5692	29
1987	A thieno[3,4-b]thiophene linker enables a low-bandgap fluorene-cored molecular acceptor for efficient non-fullerene solar cells. **2018**, 2, 760-767	12
1986	Terthieno[3,2-b]Thiophene (6T) Based Low Bandgap Fused-Ring Electron Acceptor for Highly Efficient Solar Cells with a High Short-Circuit Current Density and Low Open-Circuit Voltage Loss. **2018**, 8, 1702831	82
1985	Ternary Nonfullerene Polymer Solar Cells with a Power Conversion Efficiency of 11.6% by Inheriting the Advantages of Binary Cells. **2018**, 3, 555-561	139
1984	Polymer Solar Cells with 90% External Quantum Efficiency Featuring an Ideal Light- and Charge-Manipulation Layer. **2018**, 30, e1706083	66
1983	Synthesis and Characterization of Isoindigo-Based Polymers with Thermocleavable Side Chains. **2018**, 219, 1700538	1
1982	Effect of shell thickness of gold-silica core-shell nanospheres embedded in an organic buffer matrix for plasmonic solar cells. **2018**, 123, 063102	8
1981	Dithienosilole-based non-fullerene acceptors for efficient organic photovoltaics. **2018**, 6, 4266-4270	34
1980	Highly Efficient Tandem Organic Solar Cell Enabled by Environmentally Friendly Solvent Processed Polymeric Interconnecting Layer. **2018**, 8, 1703180	36
1979	Self-Assembled Quasi-3D Nanocomposite: A Novel p-Type Hole Transport Layer for High Performance Inverted Organic Solar Cells. **2018**, 28, 1706403	31
1978	Overcoming Microstructural Limitations in Water Processed Organic Solar Cells by Engineering Customized Nanoparticulate Inks. **2018**, 8, 1702857	34
1977	Printed Nonfullerene Organic Solar Cells with the Highest Efficiency of 9.5%. **2018**, 8, 1701942	81
1976	Organic solar cells based on non-fullerene acceptors. **2018**, 17, 119-128	1743
1975	Fused pentacyclic electron acceptors with four cis-arranged alkyl side chains for efficient polymer solar cells. **2018**, 6, 3724-3729	25
1974	Developing High-Performance Electron-Rich Unit End-Capped Wide Bandgap Oligomeric Donor by Weak Electron-Deficient Central Core Strategy. **2018**, 2, 1700212	11

1973	Controlling Blend Morphology for Ultrahigh Current Density in Nonfullerene Acceptor-Based Organic Solar Cells. **2018**, 3, 669-676	187
1972	Improved Tandem All-Polymer Solar Cells Performance by Using Spectrally Matched Subcells. **2018**, 8, 1703291	49
1971	Incorporating Trialkylsilylethynyl-Substituted Head-to-Head Bithiophene Unit into Copolymers for Efficient Non-Fullerene Organic Solar Cells. **2018**, 10, 7271-7280	6
1970	Synthesis and investigation on optoelectronic properties of mesogenic triphenylene□perylene dyads linked by ethynylphenyl bridges. **2018**, 42, 3211-3221	10
1969	Significantly Enhancing the Efficiency of a New Light-Harvesting Polymer with Alkylthio naphthyl Substituents Compared to Their Alkoxyl Analogs. **2018**, 8, 1702489	35
1968	Two Thieno[3,2-b]thiophene-Based Small Molecules as Bifunctional Photoactive Materials for Organic Solar Cells. **2018**, 2, 1700179	10
1967	Enhancing the Efficiency of Organic Photovoltaics by a Photoactive Molecular Mediator. **2018**, 2, 1700208	5
1966	High-performance all-polymer solar cells based on fluorinated naphthalene diimide acceptor polymers with fine-tuned crystallinity and enhanced dielectric constants. **2018**, 45, 368-379	86
1965	Tuning the central donor core via intramolecular noncovalent interactions based on D(A-Ar)2 type small molecules for high performance organic solar cells. **2018**, 161, 138-147	13
1964	Tattoo-Like Transferable Hole Selective Electrodes for Highly Efficient, Solution-Processed Organic Indoor Photovoltaics. **2018**, 4, 1700325	15
1963	Synthesis and characterization of highly conjugated side-group-substituted benzo[1,2-b:4,5-b?]dithiophene-based copolymer for use in organic solar cells. **2018**, 56, 653-660	3
1962	D1-A-D2-A-D1-type constitutional □conjugated small molecular isomers bearing benzodithiophene, benzothiadiazole, and thiophene. **2018**, 151, 54-63	4
1961	Low Boiling Point Solvent Additives for Improved Photooxidative Stability in Organic Photovoltaics. **2018**, 4, 1700416	18
1960	High-efficiency and air stable fullerene-free ternary organic solar cells. **2018**, 45, 177-183	169
1959	Multiple Cases of Efficient Nonfullerene Ternary Organic Solar Cells Enabled by an Effective Morphology Control Method. **2018**, 8, 1701370	116
1958	Voltage Losses in Organic Solar Cells: Understanding the Contributions of Intramolecular Vibrations to Nonradiative Recombinations. **2018**, 8, 1702227	33
1957	Unique cohesive nature of the □somer of [70]PCBM fullerene on structures and photovoltaic performances of bulk heterojunction films with PffBT4T-2OD polymers. **2018**, 54, 405-408	20
1956	High efficiency small molecular acceptors based on novel O-functionalized ladder-type dipyran building block. **2018**, 45, 10-20	39

1955	Porphyrin Antenna-Enriched BODIPY-Thiophene Copolymer for Efficient Solar Cells. **2018**, 10, 992-1004	23
1954	Polymer solar cells based on D-A low bandgap copolymers containing fluorinated side chains of thiadiazoloquinoxaline acceptor and benzodithiophene donor units. **2018**, 42, 1626-1633	6
1953	Unusual Performance Increase in Polymer Solar Cells by Cooling a Hot Donor/Acceptor Ink in a Good Solvent. **2018**, 10, 979-984	13
1952	Small bandgap porphyrin-based polymer acceptors for non-fullerene organic solar cells. **2018**, 6, 717-721	19
1951	An Unfused-Core-Based Nonfullerene Acceptor Enables High-Efficiency Organic Solar Cells with Excellent Morphological Stability at High Temperatures. **2018**, 30, 1705208	272
1950	All-Oxide MoOx/SnOx Charge Recombination Interconnects for Inverted Organic Tandem Solar Cells. **2018**, 8, 1702533	25
1949	Meeting Our New Associate Editors. **2018**, 36, 73-79	
1948	Interplay of Interfacial Layers and Blend Composition To Reduce Thermal Degradation of Polymer Solar Cells at High Temperature. **2018**, 10, 3874-3884	6
1947	Fluorinated and Alkylthiolated Polymeric Donors Enable both Efficient Fullerene and Nonfullerene Polymer Solar Cells. **2018**, 28, 1706404	57
1946	Fused Tris(thienothiophene)-Based Electron Acceptor with Strong Near-Infrared Absorption for High-Performance As-Cast Solar Cells. **2018**, 30, 1705969	305
1945	Fine-Tuning of Molecular Packing and Energy Level through Methyl Substitution Enabling Excellent Small Molecule Acceptors for Nonfullerene Polymer Solar Cells with Efficiency up to 12.54. **2018**, 30, 1706124	232
1944	Photoactive Blend Morphology Engineering through Systematically Tuning Aggregation in All-Polymer Solar Cells. **2018**, 8, 1702173	50
1943	Improve the Performance of the All-Small-Molecule Nonfullerene Organic Solar Cells through Enhancing the Crystallinity of Acceptors. **2018**, 8, 1702377	75
1942	Chemical reaction between an ITIC electron acceptor and an amine-containing interfacial layer in non-fullerene solar cells. **2018**, 6, 2273-2278	73
1941	High-Efficiency Polymer Homo-Tandem Solar Cells with Carbon Quantum-Dot-Doped Tunnel Junction Intermediate Layer. **2018**, 8, 1702165	30
1940	Indaceno-Based Conjugated Polymers for Polymer Solar Cells. **2018**, 39, e1700697	20
1939	Recent Progress in Ternary Organic Solar Cells Based on Nonfullerene Acceptors. **2018**, 8, 1702814	133
1938	Widely Applicable n-Type Molecular Doping for Enhanced Photovoltaic Performance of All-Polymer Solar Cells. **2018**, 10, 2776-2784	40

1937	Novel unsymmetrical squaraine-based small molecules for organic solar cells. **2018**, 6, 847-854		18
1936	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. **2018**, 30, 1705209		399
1935	Alkyl Chain Regiochemistry of Benzotriazole-Based Donor Polymers Influencing Morphology and Performances of Non-Fullerene Organic Solar Cells. **2018**, 8, 1702427		31
1934	Bis-Silicon-Bridged Stilbene: A Core for Small-Molecule Electron Acceptor for High-Performance Organic Solar Cells. **2018**, 30, 587-591		33
1933	From Alloy-Like to Cascade Blended Structure: Designing High-Performance All-Small-Molecule Ternary Solar Cells. *Journal of the American Chemical Society*, **2018**, 140, 1549-1556	16.4	113
1932	Surpassing 10% Efficiency Benchmark for Nonfullerene Organic Solar Cells by Scalable Coating in Air from Single Nonhalogenated Solvent. **2018**, 30, 1705485		127
1931	Panchromatic Ternary Photovoltaic Cells Using a Nonfullerene Acceptor Synthesized Using CH Functionalization. **2018**, 30, 309-313		65
1930	Amphiphilic Diblock Fullerene Derivatives as Cathode Interfacial Layers for Organic Solar Cells. **2018**, 10, 2649-2657		18
1929	Effects of incorporating different chalcogenophene comonomers into random acceptor terpolymers on the morphology and performance of all-polymer solar cells. **2018**, 9, 593-602		27
1928	A three-dimensional thiophene-annulated perylene bisimide as a fullerene-free acceptor for a high performance polymer solar cell with the highest PCE of 8.28% and a VOC over 1.0 V. **2018**, 6, 1136-1142		39
1927	Alkali Salt-Doped Highly Transparent and Thickness-Insensitive Electron-Transport Layer for High-Performance Polymer Solar Cell. **2018**, 10, 1939-1947		16
1926	High performance non-fullerene polymer solar cells based on PTB7-Th as the electron donor with 10.42% efficiency. **2018**, 6, 2549-2554		57
1925	The crucial role of intermolecular interactions in ADA-type electron acceptors and their effective modulation. **2018**, 6, 2664-2670		25
1924	Towards predicting the power conversion efficiencies of organic solar cells from donor and acceptor molecule structures. **2018**, 6, 3276-3287		11
1923	Progress in hole-transporting materials for perovskite solar cells. **2018**, 27, 650-672		71
1922	Synergistic Modifications of Side Chains and End Groups in Small Molecular Acceptors for High Efficient Non-Fullerene Organic Solar Cells. **2018**, 2, 1800053		18
1921	Hybrid Tandem Quantum Dot/Organic Solar Cells with Enhanced Photocurrent and Efficiency via Ink and Interlayer Engineering. **2018**, 3, 1307-1314		26
1920	New A-D-A type small molecules based on benzodithiophene derivative for organic solar cells. **2018**, 660, 66-71		3

1919	Shy Organic Photovoltaics: Digitally Printed Organic Solar Modules With Hidden Interconnects. **2018**, 2, 1800005	14
1918	All-Small-Molecule Organic Solar Cells Based on Pentathiophene Donor and Alkylated Indacenodithiophene-Based Acceptors with Efficiency over 8%. **2018**, 1, 2150-2156	24
1917	Effect of [6,6]-phenyl C61-butyric acid methyl ester phase on the charge generation of poly(3-hexylthiophene)-based polymer solar cells. **2018**, 390, 87-92	8
1916	A wide-bandgap polymer based on alkylthio-naphthyl- substituted benzo[1,2-b:4,5-b?]dithiophene units for efficient fullerene-based and fullerene-free polymer solar cells. **2018**, 145, 108-116	4
1915	Charge Photogeneration and Recombination in Mesostructured CuSCN-Nanowire/PC70BM Solar Cells. **2018**, 2, 1800095	7
1914	Electron transport layer-free polymer solar cells show 40% higher efficiency than using ZnO transparent cathode. **2018**, 29, 11296-11305	5
1913	Photophysics, electronic structure and solar cell performance of a donor-acceptor poly(N-dodecyl-2,7-carbazole-alt-benzothiadiazole) copolymer. **2018**, 59, 202-212	3
1912	Solution-Processed In2O3/ZnO Heterojunction Electron Transport Layers for Efficient Organic Bulk Heterojunction and Inorganic Colloidal Quantum-Dot Solar Cells. **2018**, 2, 1800076	32
1911	Morphology and electrical characteristics of polymer: Fullerene films deposited by electrospray. **2018**, 183, 137-145	8
1910	Efficient ternary polymer solar cells with a shelf-life stability for longer than 410 days. **2018**, 183, 120-128	9
1909	Combining Facile Synthetic Methods with Greener Processing for Efficient Polymer-Perylene Diimide Based Organic Solar Cells. **2018**, 2, 1800081	44
1908	Synergistic effect of fluorination on both donor and acceptor materials for high performance non-fullerene polymer solar cells with 13.5% efficiency. **2018**, 61, 531-537	302
1907	Synergistic Effect of Fluorine Substitution and Thio-Alkylation on Photovoltaic Performances of Alternating Conjugated Polymers Based on Alkylthio-Substituted Benzothiadiazole-Quaterthiophene. **2018**, 1, 2192-2199	14
1906	High Efficiency Low-Temperature Processed Perovskite Solar Cells Integrated with Alkali Metal Doped ZnO Electron Transport Layers. **2018**, 3, 1241-1246	43
1905	Effect of π-bridge units on properties of A-π-D-π-A-type nonfullerene acceptors for organic solar cells. **2018**, 20, 14200-14210	11
1904	Synthesis of an indacenodithiophene-based fully conjugated ladder polymer and its optical and electronic properties. **2018**, 9, 2227-2231	7
1903	Near-infrared absorbing non-fullerene acceptors with selenophene as π-bridges for efficient organic solar cells. **2018**, 6, 8059-8067	79
1902	Regulating the optoelectronic properties of small molecule donors with multiple alternative electron-donor and acceptor units for organic solar cells. **2018**, 6, 8101-8108	2

1901	Over 14% Efficiency in Polymer Solar Cells Enabled by a Chlorinated Polymer Donor. **2018**, 30, e1800868	832
1900	Organic solar cells based on graphene derivatives and eutectic alloys vacuum-free deposited as top electrodes. **2018**, 134, 301-309	25
1899	Alkylsilyl Functionalized Copolymer Donor for Annealing-Free High Performance Solar Cells with over 11% Efficiency: Crystallinity Induced Small Driving Force. **2018**, 28, 1800606	38
1898	Additive assisted morphological optimization of photoactive layer in polymer solar cells. **2018**, 182, 246-254	34
1897	A High-Efficiency Organic Solar Cell Enabled by the Strong Intramolecular Electron Push-Pull Effect of the Nonfullerene Acceptor. **2018**, 30, e1707170	295
1896	Recombination Losses Above and Below the Transport Percolation Threshold in Bulk Heterojunction Organic Solar Cells. **2018**, 8, 1703339	13
1895	What Makes a Good Solar Cell?. **2018**, 8, 1703385	104
1894	DR3TBDTT Based Ternary Blends Containing Conjugated Polymers: Crystallization Determines Morphology and Performance. **2018**, 36, 437-442	5
1893	Advances in Polymer-Based Photovoltaic Cells: Review of Pioneering Materials, Design, and Device Physics. **2018**, 1-48	1
1892	Two wide-bandgap fluorine-substituted benzotriazole based terpolymers for efficient polymer solar cells. **2018**, 155, 126-134	4
1891	Efficient Approach for Improving the Performance of Nonhalogenated Green Solvent-Processed Polymer Solar Cells via Ternary-Blend Strategy. **2018**, 10, 13748-13756	16
1890	Small molecule donors based on benzodithiophene and diketopyrrolopyrrole compatible with both fullerene and non-fullerene acceptors. **2018**, 6, 5843-5848	18
1889	Mesogenic complementary absorbing dyads based on porphyrin and perylene units. **2018**, 22, 221-232	
1888	Substituents on the end group subtle tuning the energy levels and absorptions of small-molecule nonfullerene acceptors. **2018**, 155, 241-248	17
1887	High efficiency small molecule-based donor materials for organic solar cells. **2018**, 58, 53-62	49
1886	Molecular Engineering for Large Open-Circuit Voltage and Low Energy Loss in Around 10% Non-fullerene Organic Photovoltaics. **2018**, 3, 1028-1035	43
1885	Nonfullerene Acceptor Molecules for Bulk Heterojunction Organic Solar Cells. **2018**, 118, 3447-3507	1051
1884	Wide-Bandgap Conjugated Polymers Based on Alkylthiofuran-Substituted Benzo[1,2-b:4,5-b?]difuran for Efficient Fullerene-Free Polymer Solar Cells. **2018**, 51, 2498-2505	20

1883	A universal nonfullerene electron acceptor matching with different band-gap polymer donors for high-performance polymer solar cells. **2018**, 6, 6874-6881	26
1882	Enhanced photovoltaic performance of polymer solar cells through design of a fused dithienosilolodithiophene structure with an enlarged π-conjugated system. **2018**, 6, 4208-4216	10
1881	Highly crystalline new benzodithiophene–benzothiadiazole copolymer for efficient ternary polymer solar cells with an energy conversion efficiency of over 10%. **2018**, 6, 4281-4289	21
1880	Fluorination increases the electron mobility of zinc azadipyrromethene-based electron acceptors and enhances the performance of fullerene-free organic solar cells. **2018**, 6, 3990-3998	10
1879	Improved performance of non-fullerene polymer solar cells using wide-bandgap random terpolymers. **2018**, 57, 317-322	10
1878	Can the Dielectric Constant of Fullerene Derivatives Be Enhanced by Side-Chain Manipulation? A Predictive First-Principles Computational Study. **2018**, 122, 3919-3926	15
1877	Nonfullerene Tandem Organic Solar Cells with High Performance of 14.11. **2018**, 30, e1707508	156
1876	Impact of Electrodes on Recombination in Bulk Heterojunction Organic Solar Cells. **2018**, 10, 12013-12020	9
1875	Analyzing the efficiency, stability and cost potential for fullerene-free organic photovoltaics in one figure of merit. **2018**, 11, 1355-1361	119
1874	Synergy of a titanium chelate electron collection layer and a vertical phase separated photoactive layer for efficient inverted polymer solar cells. **2018**, 6, 7257-7264	19
1873	A 2-(trifluoromethyl)thieno[3,4-b]thiophene-based small-molecule electron acceptor for polymer solar cell application. **2018**, 155, 179-185	7
1872	Synthesis and photovoltaic properties of 2D-conjugated polymers with alkylsilyl-substituted thieno[3,2-b]thiophene conjugated side chains. **2018**, 57, 255-262	9
1871	A fluorene-core-based electron acceptor for fullerene-free BHJ organic solar cells-towards power conversion efficiencies over 10. **2018**, 54, 4001-4004	20
1870	High efficiency ternary polymer solar cells based on a fused pentacyclic electron acceptor. **2018**, 6, 6854-6859	15
1869	Influence of Solvent Additive 1,8-Octanedithiol on P3HT:PCBM Solar Cells. **2018**, 28, 1800209	33
1868	Tackling Energy Loss for High-Efficiency Organic Solar Cells with Integrated Multiple Strategies. **2018**, 30, e1706816	75
1867	Dithieno[3,2-b:2′,3′-d]pyrrol Fused Nonfullerene Acceptors Enabling Over 13% Efficiency for Organic Solar Cells. **2018**, 30, e1707150	340
1866	Morphology Control in Organic Solar Cells. **2018**, 8, 1703147	272

1865	Thermally Stable All-Polymer Solar Cells with High Tolerance on Blend Ratios. **2018**, 8, 1800029	134
1864	Finely Tuned Composition in Conjugated Polyelectrolytes for Interfacial Engineering of Efficient Polymer Solar Cells. **2018**, 2, 1700407	17
1863	Miscibility-Driven Optimization of Nanostructures in Ternary Organic Solar Cells Using Non-fullerene Acceptors. **2018**, 2, 621-641	92
1862	The role of hydrogen bonding in bulk-heterojunction (BHJ) solar cells: A review. **2018**, 182, 1-13	26
1861	Modulating Molecular Orientation Enables Efficient Nonfullerene Small-Molecule Organic Solar Cells. **2018**, 30, 2129-2134	127
1860	Designing Small Molecules as Ternary Energy-Cascade Additives for Polymer:Fullerene Solar Cell Blends. **2018**, 30, 2213-2217	19
1859	A trifluoromethyl substituted wide bandgap conjugated polymer for non-fullerene polymer solar cells with 10.4% efficiency. **2018**, 6, 6551-6558	18
1858	Efficient device engineering for inverted non-fullerene organic solar cells with low energy loss. **2018**, 6, 4457-4463	30
1857	Star-shaped electron acceptors containing a truxene core for non-fullerene solar cells. **2018**, 52, 42-50	45
1856	Understanding Energy Loss in Organic Solar Cells: Toward a New Efficiency Regime. **2018**, 2, 25-35	319
1855	Thiophene-Fused Naphthalene Diimides: New Building Blocks for Electron Deficient Functional Materials. **2018**, 91, 121-140	52
1854	Cyclometalated Pt complex based random terpolymers as electron acceptors for all polymer solar cells. **2018**, 56, 105-115	12
1853	A Facile Method to Fine-Tune Polymer Aggregation Properties and Blend Morphology of Polymer Solar Cells Using Donor Polymers with Randomly Distributed Alkyl Chains. **2018**, 8, 1701895	52
1852	Asymmetric, efficient conjugated organic semiconducting chromophore for bulk-heterojunction organic photovoltaics. **2018**, 149, 141-148	12
1851	Ternary Organic Solar Cells with >11% Efficiency Incorporating Thick Photoactive Layer and Nonfullerene Small Molecule Acceptor. **2018**, 8, 1701691	69
1850	Tailoring the second acceptor unit in easily synthesized ternary copolymers toward efficient non-fullerene polymer solar cells. **2018**, 148, 72-80	4
1849	A new small molecule acceptor based on indaceno[2,1-b:6,5-b]dithiophene and thiophene-fused ending group for fullerene-free organic solar cells. **2018**, 148, 263-269	16
1848	The effect of alkylthio side chains in oligothiophene-based donor materials for organic solar cells. **2018**, 3, 131-141	9

1847	Naphthodithiophene-Based Nonfullerene Acceptor for High-Performance Organic Photovoltaics: Effect of Extended Conjugation. **2018**, 30, 1704713	183
1846	Multifunctional Diketopyrrolopyrrole-Based Conjugated Polymers with Perylene Bisimide Side Chains. **2018**, 39, e1700611	18
1845	Effect of acceptor strength on optical, electrochemical and photovoltaic properties of phenothiazine-based small molecule for bulk heterojunction organic solar cells. **2018**, 149, 830-842	22
1844	Achieving high short-circuit current and fill-factor via increasing quinoidal character on nonfullerene small molecule acceptor. **2018**, 29, 381-384	27
1843	Highly efficient polymer solar cells employing natural chlorophyllin as a cathode interfacial layer. **2018**, 6, 464-468	15
1842	Distinction between PTB7-Th samples prepared from Pd(PPh3)4 and Pd2(dba)3/P(o-tol)3 catalysed stille coupling polymerization and the resultant photovoltaic performance. **2018**, 6, 179-188	16
1841	Enhancing the performance of a fused-ring electron acceptor via extending benzene to naphthalene. **2018**, 6, 66-71	34
1840	Rational design of asymmetric benzodithiophene based photovoltaic polymers for efficient solar cells. **2018**, 6, 948-956	33
1839	Achieving an Efficiency Exceeding 10% for Fullerene-based Polymer Solar Cells Employing a Thick Active Layer via Tuning Molecular Weight. **2018**, 28, 1705257	36
1838	Effects of Nonradiative Losses at Charge Transfer States and Energetic Disorder on the Open-Circuit Voltage in Nonfullerene Organic Solar Cells. **2018**, 28, 1705659	61
1837	Semiconducting Copolymers Based on meso-Substituted BODIPY for Inverted Organic Solar Cells and Field-Effect Transistors. **2018**, 4, 1700354	13
1836	Advances in Non-Fullerene Acceptor Based Ternary Organic Solar Cells. **2018**, 2, 1700158	79
1835	Highly efficient polyacetylene-based polyelectrolytes as cathode interfacial layers for organic solar cell applications. **2018**, 53, 265-272	27
1834	Breaking 10% Efficiency in Semitransparent Solar Cells with Fused-Undecacyclic Electron Acceptor. **2018**, 30, 239-245	144
1833	Designing high performance all-small-molecule solar cells with non-fullerene acceptors: comprehensive studies on photoexcitation dynamics and charge separation kinetics. **2018**, 11, 211-220	27
1832	High-Performance As-Cast Nonfullerene Polymer Solar Cells with Thicker Active Layer and Large Area Exceeding 11% Power Conversion Efficiency. **2018**, 30, 1704546	210
1831	Synergistic Effects of Selenophene and Extended Ladder-Type Donor Units for Efficient Polymer Solar Cells. **2018**, 39, 1700483	6
1830	Photovoltaic molecules based on vinylene-bridged oligothiophene applied for bulk-heterojunction organic solar cells. **2018**, 27, 426-431	

1829	A green route to a novel hyperbranched electrolyte interlayer for nonfullerene polymer solar cells with over 11% efficiency. **2018**, 54, 563-566	30
1828	The design of highly efficient polymer solar cells with outstanding short-circuit current density based on small band gap electron acceptor. **2018**, 150, 363-369	14
1827	An effective strategy to enhance the dielectric constant of organic semiconductors □ CPDTTPD-based low bandgap polymers bearing oligo(ethylene glycol) side chains. **2018**, 6, 500-511	29
1826	Dimeric Porphyrin Small Molecules for Efficient Organic Solar Cells with High Photoelectron Response in the Near-Infrared Region. **2018**, 10, 668-675	25
1825	The integrated adjustment of chlorine substitution and two-dimensional side chain of low band gap polymers in organic solar cells. **2018**, 9, 940-947	26
1824	A High Dielectric N-Type Small Molecular Acceptor Containing Oligoethyleneglycol Side-Chains for Organic Solar Cells. **2018**, 36, 199-205	16
1823	Tunable Electron Donating and Accepting Properties Achieved by Modulating the Steric Hindrance of Side Chains in A-D-A Small-Molecule Photovoltaic Materials. **2018**, 30, 619-628	39
1822	Absorptive Behaviors and Photovoltaic Performance Enhancements of Alkoxy-Phenyl Modified Indacenodithieno[3,2-b]thiophene-Based Nonfullerene Acceptors. **2018**, 6, 2177-2187	24
1821	Hybrid conjugated polymers with alternating dithienosilole or dithienogermole and tricoordinate boron units. **2018**, 9, 291-299	31
1820	A high dielectric constant non-fullerene acceptor for efficient bulk-heterojunction organic solar cells. **2018**, 6, 395-403	173
1819	Contrasting Effects of Energy Transfer in Determining Efficiency Improvements in Ternary Polymer Solar Cells. **2018**, 28, 1704212	49
1818	Hole-Transfer Dependence on Blend Morphology and Energy Level Alignment in Polymer: ITIC Photovoltaic Materials. **2018**, 30, 1704263	85
1817	Modulation of the power conversion efficiency of organic solar cells via architectural variation of a promising non-fullerene acceptor. **2018**, 6, 574-582	11
1816	Realizing Over 13% Efficiency in Green-Solvent-Processed Nonfullerene Organic Solar Cells Enabled by 1,3,4-Thiadiazole-Based Wide-Bandgap Copolymers. **2018**, 30, 1703973	364
1815	Fine-Tuning the Energy Levels of a Nonfullerene Small-Molecule Acceptor to Achieve a High Short-Circuit Current and a Power Conversion Efficiency over 12% in Organic Solar Cells. **2018**, 30, 1704904	190
1814	Balancing High Open Circuit Voltage over 1.0 V and High Short Circuit Current in Benzodithiophene-Based Polymer Solar Cells with Low Energy Loss: A Synergistic Effect of Fluorination and Alkylthiolation. **2018**, 8, 1701471	51
1813	Effect of Alkylsilyl Side-Chain Structure on Photovoltaic Properties of Conjugated Polymer Donors. **2018**, 8, 1702324	85
1812	Simultaneously Achieved High Open-Circuit Voltage and Efficient Charge Generation by Fine-Tuning Charge-Transfer Driving Force in Nonfullerene Polymer Solar Cells. **2018**, 28, 1704507	147

1811	Environmentally Friendly Solvent-Processed Organic Solar Cells that are Highly Efficient and Adaptable for the Blade-Coating Method. **2018**, 30, 1704837	138
1810	Diketopyrrolopyrrole-Based and Tetracyano-Bridged Small Molecules for Bulk Heterojunction Organic Solar Cells. **2018**, 13, 220-229	40
1809	Photovoltaic Properties of a Porphyrin-Containing Polymer as Donor in Bulk Heterojunction Solar Cells With Low Energy Loss. **2018**, 2, 1700168	11
1808	Efficient Large Area Organic Solar Cells Processed by Blade-Coating With Single-Component Green Solvent. **2018**, 2, 1700169	68
1807	Non-fullerene small molecule electron acceptors for high-performance organic solar cells. **2018**, 27, 990-1016	9
1806	Impact of Acceptor Fluorination on the Performance of All-Polymer Solar Cells. **2018**, 10, 955-969	26
1805	SYNTHESIS OF NEW NITROBENZYLIDENE DERIVATIVES AND PYRROLE-BASED COPOLYMERS FOR DYE-SENSITIZED SOLAR CELLS: EFFECT OF SUBSTITUENT ON OPTO-ELECTRICAL PROPERTIES OF DIP-COATED THIN FILMS. **2018**, 25, 1850116	1
1804	Solution-Processed Titanium Chelate Used as Both Electrode Modification Layer and Intermediate Layer for Efficient Inverted Tandem Polymer Solar Cells. **2018**, 36, 194-198	18
1803	Exploring more effective polymer donors for the famous non-fullerene acceptor ITIC in organic solar cells by increasing electron-withdrawing ability. **2018**, 53, 308-314	19
1802	A Triphenylamine–Naphthalenediimide–Fullerene Triad: Synthesis, Photoinduced Charge Separation and Solution-Processable Bulk Heterojunction Solar Cells. **2018**, 7, 220-226	11
1801	A Shockley-Type Polymer: Fullerene Solar Cell. **2018**, 8, 1701450	29
1800	Optimization of the Donor Material Structure and Processing Conditions to Obtain Efficient Small-Molecule Donors for Bulk Heterojunction Solar Cells. **2018**, 2, 81-88	1
1799	A novel small molecule based on naphtho[1,2-b:5,6-b?]dithiophene benefits both fullerene and non-fullerene solar cells. **2018**, 2, 143-148	12
1798	Dithienosilole–phenylquinoxaline-based copolymers with A-D-A-D and A-D structures for polymer solar cells. **2018**, 56, 376-386	4
1797	Pyran-Bridged Indacenodithiophene as a Building Block for Constructing Efficient A-D-A-Type Nonfullerene Acceptors for Polymer Solar Cells. **2018**, 11, 360-366	30
1796	Recent Advances in Nonfullerene Acceptors for Organic Solar Cells. **2018**, 39, 1700555	40
1795	Flexible and Semitransparent Organic Solar Cells. **2018**, 8, 1701791	374
1794	Molecular engineering of side chain architecture of conjugated polymers enhances performance of photovoltaics by tuning ternary blend structures. **2018**, 43, 138-148	41

1793	Fluorine-induced self-doping and spatial conformation in alcohol-soluble interlayers for highly-efficient polymer solar cells. **2018**, 6, 423-433	13
1792	A large-bandgap small-molecule electron acceptor utilizing a new indacenodibenzothiophene core for organic solar cells. **2018**, 2, 136-142	15
1791	A near-infrared porphyrin-based electron acceptor for non-fullerene organic solar cells. **2018**, 29, 371-373	23
1790	Impact of Nonfullerene Molecular Architecture on Charge Generation, Transport, and Morphology in PTB7-Th-Based Organic Solar Cells. **2018**, 28, 1802702	37
1789	Potential Dip in Organic Photovoltaics Probed by Cross-sectional Kelvin Probe Force Microscopy. **2018**, 13, 228	1
1788	Printing of Flexible, Large-Area Organic Photovoltaic Cells. **2018**,	
1787	The influence of the Ebridging unit of fused-ring acceptors on the performance of organic solar cells. **2018**, 6, 21335-21340	24
1786	Side chain modification on PDI-spirobifluorene-based molecular acceptors and its impact on organic solar cell performances. **2018**, 42, 18633-18640	10
1785	Realizing solution-processed monolithic PbS QDs/perovskite tandem solar cells with high UV stability. **2018**, 6, 24693-24701	32
1784	Donor polymer based on alkylthiophene side chains for efficient non-fullerene organic solar cells: insights into fluorination and side chain effects on polymer aggregation and blend morphology. **2018**, 6, 23270-23277	9
1783	Adjusting the energy levels and bandgaps of conjugated polymers via Lewis acidBase reactions. **2018**, 42, 18961-18968	8
1782	Construction of J-type aggregates as multi-functional interlayers for nonfullerene polymer solar cells. **2018**, 5, 3324-3330	5
1781	Semitransparent all-polymer solar cells through lamination. **2018**, 6, 21186-21192	13
1780	Plasmonic Nanoantennas For Solar Cells With Improved Efficiency. **2018**,	
1779	Effects of end-on oriented polymer chains at the donor/acceptor interface in organic solar cells. **2018**, 6, 22889-22898	16
1778	One-pot synthesis of electron-acceptor composite enables efficient fullerene-free ternary organic solar cells. **2018**, 6, 22519-22525	25
1777	Bandgap Engineering of Dual Acceptor-Containing Naphthalene Diimide Polymers for All-Polymer Solar Cells. **2018**, 6, 16005-16010	11
1776	Ultrapure Films of Polythiophene Derivatives are Born on a Substrate by Liquid Flow. **2018**, 1, 6881-6889	7

1775	High-Crystallinity Conjugated Small Molecules Based on Thienylene-Vinylene-Thienylene: Critical Role of Self-Organization in Photovoltaic, Charge-Transport, and Morphological Properties. **2018**, 10, 42756-42765	4
1774	A Spectral Density Function Approach for Design of Organic Photovoltaic Cells. **2018**,	5
1773	Ternary Blend Solar Cells Based on a Conjugated Polymer With Diketopyrrolopyrrole and Carbazole Units. **2018**, 6,	10
1772	Effects of the Number of Bromine Substitution on Photovoltaic Efficiency and Energy Loss of Benzo[1,2-b:4,5-b?]diselenophene-based Narrow-Bandgap Multibrominated Nonfullerene Acceptors. **2018**, 3, 1800250	29
1771	Electron Conjugation in Two-Dimensional Polymers. **2018**, 509-522	2
1770	Impact of t-butyl group on the singlet triplet energy gap via weak orbital overlap of [1,2,5]-thiadiazolo[3,4-C] pyridine-based TADF emitters: Structural modification. **2018**, 17, 1850048	
1769	Selenopheno[3,2-b]thiophene-Based Narrow-Bandgap Nonfullerene Acceptor Enabling 13.3% Efficiency for Organic Solar Cells with Thickness-Insensitive Feature. **2018**, 3, 2967-2976	109
1768	Fullerene Aggregation in Thin Films of Polymer Blends for Solar Cell Applications. **2018**, 11,	4
1767	Simple-structured small molecule acceptors constructed by a weakly electron-deficient thiazolothiazole core for high-efficiency non-fullerene organic solar cells. **2018**, 6, 24267-24276	55
1766	Multi-component non-fullerene acceptors with tunable bandgap structures for efficient organic solar cells. **2018**, 6, 23644-23649	35
1765	Design and application of volatilizable solid additives in non-fullerene organic solar cells. **2018**, 9, 4645	130
1764	5,6-Bis(9-(2-decyltetradecyl)-6-fluoro-9H-carbazol-3-yl)naphtho[2,1-b:3,4-b']dithiophene as a Promising Donor Structure for D A Conjugated Copolymers with a Narrow Bandgap. **2018**, 482, 213-219	
1763	Two TPD-Based Conjugated Polymers: Synthesis and Photovoltaic Applications as Donor Materials. **2018**, 26, 1193-1199	8
1762	Treating the Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) Surface with Hydroquinone Enhances the Performance of Polymer Solar Cells. **2018**, 10, 41578-41585	13
1761	Ether chain functionalized fullerene derivatives as cathode interface materials for efficient organic solar cells. **2018**, 11, 348-359	6
1760	New 2D-Conjugated Polymer for Non-Halogenated and Halogenated Solvents Processed Organic Solar Cells. **2018**, 26, 1276-1279	7
1759	. **2018**,	1
1758	Overcoming efficiency and stability limits in water-processing nanoparticular organic photovoltaics by minimizing microstructure defects. **2018**, 9, 5335	57

1757	Prospects of colour selective organic photodiodes. **2018**, 6, 13084-13100	24
1756	A small-molecule acceptor incorporating a silicon bridging atom for efficient nonfullerene polymer solar cells. **2018**, 6, 13211-13217	8
1755	Randomly Distributed Conjugated Polymer Repeat Units for High-Efficiency Photovoltaic Materials with Enhanced Solubility and Processability. **2018**, 10, 44583-44588	13
1754	Assessing the nature of the charge-transfer electronic states in organic solar cells. **2018**, 9, 5295	83
1753	Negative Correlation between Intermolecular vs Intramolecular Disorder in Bulk-Heterojunction Organic Solar Cells. **2018**, 10, 44576-44582	14
1752	Introducing Four 1,1-Dicyanomethylene-3-indanone End-Capped Groups as an Alternative Strategy for the Design of Small-Molecular Nonfullerene Acceptors. **2018**, 122, 29122-29128	31
1751	Establishing a microscopic model for nonfullerene organic solar cells: Self-accumulation effect of charges. **2018**, 149, 194902	3
1750	Technical and Economical Aspects of Use of Solar Energy in Oil & Gas Industry in the Middle East. **2018**,	3
1749	End-cap Group Engineering of a Small Molecule Non-Fullerene Acceptor: The Influence of Benzothiophene Dioxide. **2018**, 1, 7146-7152	9
1748	Scaling of next generation solution processed organic and perovskite solar cells. **2018**, 9, 5261	42
1747	Increasing the Dielectric Constant of Organic Materials for Photovoltaics. **2018**, 401-441	1
1746	Semiconducting Polymer Thin Films Used in Organic Solar Cells: A Scanning Tunneling Microscopy Study. **2018**, 5, 1800499	7
1745	Ni-Porphyrin-based small molecule for efficient organic solar cells (>9.0%) with a high open circuit voltage of over 1.0 V and low energy loss. **2018**, 54, 14144-14147	15
1744	Recent Progress in Fused-Ring Based Nonfullerene Acceptors for Polymer Solar Cells. **2018**, 6, 404	16
1743	Ultrafast excited state dynamics of a bithiophene-isoindigo copolymer obtained by direct arylation polycondensation and its application in indium tin oxide-free solar cells. **2018**, 56, 1475-1483	9
1742	The effect of thickness on the performance of CdSe:Cu2+□uantum dot-sensitized solar cells. **2018**, 124, 1	3
1741	Efficient dual cathode interfacial layer for high performance organic and perovskite solar cells. **2018**, 63, 222-230	10
1740	Alkyl Branching Position in Diketopyrrolopyrrole Polymers: Interplay between Fibrillar Morphology and Crystallinity and Their Effect on Photogeneration and Recombination in Bulk-Heterojunction Solar Cells. **2018**, 30, 6801-6809	9

1739	Ultra-narrow bandgap non-fullerene organic solar cells with low voltage losses and a large photocurrent. **2018**, 6, 19934-19940	25
1738	Conjugated polymer donor with alkylthio-thiophene π-bridge for efficient polymer solar cells. **2018**, 63, 289-295	4
1737	Fused-Ring Nonfullerene Acceptor Forming Interpenetrating J-Architecture for Fullerene-Free Polymer Solar Cells. **2018**, 8, 1800204	60
1736	Effects of different types of unsymmetrical squaraines on the material properties and Coulomb interactions in organic photovoltaic devices. **2018**, 2, 2116-2123	4
1735	The role of the charge-transfer states in the ultrafast excitonic dynamics of the DTDCTB dimers embedded in a crystal environment. **2018**, 515, 603-613	3
1734	Fluorobenzotriazole-Based Medium-Bandgap Conjugated D-A Copolymers for Applications to Fullerene-Based and Nonfullerene Polymer Solar Cells. **2018**, 56, 2330-2343	5
1733	Theoretical Calculations for Highly Selective Direct Heteroarylation Polymerization: New Nitrile-Substituted Dithienyl-Diketopyrrolopyrrole-Based Polymers. **2018**, 23,	7
1732	Donor Conjugated Polymers with Polar Side Chain Groups: The Role of Dielectric Constant and Energetic Disorder on Photovoltaic Performance. **2018**, 28, 1803418	26
1731	Efficient Nonfullerene Organic Solar Cells with Small Driving Forces for Both Hole and Electron Transfer. **2018**, 30, e1804215	116
1730	An Analysis of the Factors Determining the Efficiency of Photocurrent Generation in Polymer:Nonfullerene Acceptor Solar Cells. **2018**, 8, 1801537	20
1729	Organic Solar Cell Materials toward Commercialization. **2018**, 14, e1801793	177
1728	Distinctive Nanocrater Structures in Hybrid Electron-Collecting Buffer Layers for High Efficiency Polymer:Nonfullerene Solar Cells. **2018**, 5, 1800912	4
1727	Hole transport layer free bulk heterojunction organic solar cells with high work function ITO anodes. **2018**, 8, 095027	1
1726	High-Performance All-Small-Molecule Solar Cells Based on a New Type of Small Molecule Acceptors with Chlorinated End Groups. **2018**, 8, 1802021	59
1725	Bilayer–Ternary Polymer Solar Cells Fabricated Using Spontaneous Spreading on Water. **2018**, 8, 1802197	15
1724	Effect of Molecular Shape on the Properties of Non-Fullerene Acceptors: Contrasting Calamitic Versus 3D Design Principles. **2018**, 1, 6513-6523	9
1723	Organic Semiconductor Based Devices for Solar Water Splitting. **2018**, 8, 1802585	64
1722	Exceeding 14% Efficiency for Solution-Processed Tandem Organic Solar Cells Combining Fullerene- and Nonfullerene-Based Subcells with Complementary Absorption. **2018**, 3, 2566-2572	39

1721	Side-chain effect of perylene diimide tetramer-based non-fullerene acceptors for improving the performance of organic solar cells. **2018**, 2, 2104-2108	8
1720	Cyclopentadithiophene-cored non-fullerene acceptors for efficient polymer solar cells with superior stability. **2018**, 174, 991-998	9
1719	Direct arylation polymerization toward efficient synthesis of benzo[1,2-c:4,5-c']dithiophene-4,8-dione based donor-acceptor alternating copolymers for organic optoelectronic applications. **2018**, 56, 2554-2564	2
1718	Impact of ZnO Photoluminescence on Organic Photovoltaic Performance. **2018**, 10, 39962-39969	22
1717	Multiple Roles of a Non-fullerene Acceptor Contribute Synergistically for High-Efficiency Ternary Organic Photovoltaics. **2018**, 2, 2154-2166	66
1716	Across the Board: Antonio Facchetti. **2018**, 11, 3829-3833	1
1715	Effects of Molecular Orientation of a Fullerene Derivative at the Donor/Acceptor Interface on the Device Performance of Organic Photovoltaics. **2018**, 30, 8233-8243	7
1714	Chlorine Atom-Induced Molecular Interlocked Network in a Non-Fullerene Acceptor. **2018**, 10, 39992-40000	86
1713	Fluorinated Thieno[2',3':4,5]benzo[1,2-][1,2,3]triazole: New Acceptor Unit To Construct Polymer Donors. **2018**, 3, 13894-13901	6
1712	Star-Shaped and Fused Electron Acceptors based on C -Symmetric Coplanar Trindeno[1, 2-b: 4, 5-b': 7, 8-b'']trithiophene Core for Non-Fullerene Solar Cells. **2019**, 25, 1055-1063	6
1711	Effective Molecular Engineering Approach for Employing a Halogen-Free Solvent for the Fabrication of Solution-Processed Small-Molecule Solar Cells. **2018**, 10, 39107-39115	11
1710	Optimizing H-/J-Type Aggregation and Vertical Phase Separation To Improve Photovoltaic Efficiency of Small Molecule Solar Cells by Adding a Macromolecule Additive. **2018**, 1, 6338-6344	6
1709	Device modeling of solution-processed organic solar cells, photodiodes and photo-resistances Invited paper. **2018**,	
1708	Development of a phenanthrodithiophene-difluorobenzoxadiazole copolymer exhibiting high open-circuit voltage in organic solar cells. **2018**, 56, 2646-2655	2
1707	High-Performance All-Polymer Solar Cells with a High Fill Factor and a Broad Tolerance to the Donor/Acceptor Ratio. **2018**, 10, 38302-38309	26
1706	Fluorinated naphtho[1,2-c:5,6-c]bis[1,2,5]thiadiazole-containing conjugated compound: synthesis, properties, and acceptor applications in organic solar cells. **2018**, 10, 1016-1028	13
1705	Synergy study on charge transport dynamics in hybrid organic solar cell: Photocurrent mapping and performance analysis under local spectrum. **2018**, 18, 1564-1570	1
1704	Development of n-Type Porphyrin Acceptors for Panchromatic Light-Harvesting Fullerene-Free Organic Solar Cells. **2018**, 6, 473	2

1703	On the Design of Donor–Acceptor Conjugated Polymers for Photocatalytic Hydrogen Evolution Reaction: First-Principles Theory-Based Assessment. **2018**, 122, 26876-26888		26
1702	Order–Disorder Phase Equilibria of Regioregular Poly(3-hexylthiophene-2,5-diyl) Solution. **2018**, 51, 9026-9034		8
1701	The History of Palladium-Catalyzed Cross-Couplings Should Inspire the Future of Catalyst-Transfer Polymerization. *Journal of the American Chemical Society*, **2018**, 140, 15126-15139	16.4	48
1700	High-performance and long-term stable inverted ternary solar cells based on PTB7-Th/N2200/PC71BM blends. **2018**, 176, 170-177		9
1699	Facile preparation of asymmetric phthalocyanine/multi-walled carbon nanotube hybrid material by in situ click chemistry. **2018**, 29, 21078-21087		1
1698	Enhancing the Performance of Non-Fullerene Organic Solar Cells Using Regioregular Wide-Bandgap Polymers. **2018**, 51, 8646-8651		27
1697	Fine-tuning of the chemical structure of photoactive materials for highly efficient organic photovoltaics. **2018**, 3, 1051-1058		235
1696	Design Principles for Nanoparticle Plasmon-Enhanced Organic Solar Cells. **2018**, 13, 211		21
1695	Fluorination Induced Donor to Acceptor Transformation in A1-D-A2-D-A1-Type Photovoltaic Small Molecules. **2018**, 6, 384		2
1694	Exploration of Syntheses and Functions of Higher Ladder-type π-Conjugated Heteroacenes. **2018**, 4, 2538-2570		54
1693	Pyran-annulated perylene diimide derivatives as non-fullerene acceptors for high performance organic solar cells. **2018**, 6, 11111-11117		13
1692	Visible Sensitization for Non-Fullerene Polymer Solar Cells Using a Wide Bandgap Polymer. **2018**, 31, 177-181		8
1691	Development of Environmentally Controlled Desktop Spray Coater and Optimization of Deposition Conditions for Organic Thin-film Photovoltaic Cells. **2018**, 31, 335-341		0
1690	Does Electron Delocalization Influence Charge Separation at Donor–Acceptor Interfaces in Organic Photovoltaic Cells?. **2018**, 122, 21792-21802		30
1689	The reason why a kind of diketopyrrolopyrrole-analogue can act as acceptors: Theoretical study and characterization. **2018**, 118, e25782		
1688	Spatial and orientational dependence of electron transfer parameters in aggregates of iridium-containing host materials for OLEDs: coupling constrained density functional theory with molecular dynamics. **2018**, 20, 28393-28399		6
1687	Rational design strategies for electron-deficient semiconducting polymers in ambipolar/n-channel organic transistors and all-polymer solar cells. **2018**, 6, 10390-10410		35
1686	Enhanced efficiency of polymer solar cells through synergistic optimization of mobility and tuning donor alloys by adding high-mobility conjugated polymers. **2018**, 6, 11015-11022		70

1685	Enhancing the Photovoltaic Performance of Nonfullerene Acceptors via Conjugated Rotatable End Groups. **2018**, 8, 1802131	21
1684	Understanding Structure-Property Relationships in All-Small-Molecule Solar Cells Incorporating a Fullerene or Nonfullerene Acceptor. **2018**, 10, 36037-36046	16
1683	Recent development of efficient A-D-A type fused-ring electron acceptors for organic solar. **2018**, 174, 171-188	39
1682	Unexpectedly Slow Yet Efficient Picosecond to Nanosecond Photoinduced Hole-Transfer Occurs in a Polymer/Nonfullerene Acceptor Organic Photovoltaic Blend. **2018**, 3, 2396-2403	49
1681	Push□ull architecture eliminates chain length effects on exciton dissociation. **2018**, 6, 22758-22767	4
1680	A2□A1□D□A1□A2 type non-fullerene acceptors based on methoxy substituted benzotriazole with three different end-capped groups for P3HT-based organic solar cells. **2018**, 6, 10902-10909	28
1679	Electronic states and molecular orientation of ITIC film. **2018**, 27, 088801	5
1678	Surface and chemical characterization of ZnO:Eu3+/Yb3+ spin coated thin films using SEM-CL and TOF-SIMS. **2018**, 157, 376-383	7
1677	Reduced Energy Offsets and Low Energy Losses Lead to Efficient (~10% at 1 sun) Ternary Organic Solar Cells. **2018**, 3, 2418-2424	14
1676	Use of two structurally similar small molecular acceptors enabling ternary organic solar cells with high efficiencies and fill factors. **2018**, 11, 3275-3282	227
1675	Extension of indacenodithiophene backbone conjugation enables efficient asymmetric A□D□A type non-fullerene acceptors. **2018**, 6, 18847-18852	64
1674	A Fused Ring Electron Acceptor with Decacyclic Core Enables over 13.5% Efficiency for Organic Solar Cells. **2018**, 8, 1802050	83
1673	High-efficiency ternary polymer solar cells employing the solid solution as the donor phase. **2018**, 63, 109-113	1
1672	Thiophene and thieno[3,2-b]thiophene □bridged pyrrolo[3,4-c]pyrrole-1,3-dione-based wide band-gap polymers for fullerene and non-fullerene organic solar cells. **2018**, 63, 78-85	7
1671	Synthesis of star-shaped non-fullerene acceptors and their applications in organic solar cells. **2018**, 245, 167-174	3
1670	Low-Temperature Processable High-Performance D□A-Type Random Copolymers for Nonfullerene Polymer Solar Cells and Application to Flexible Devices. **2018**, 8, 1801601	29
1669	Exciton Binding Energies of Nonfullerene Small Molecule Acceptors: Implication for Exciton Dissociation Driving Forces in Organic Solar Cells. **2018**, 122, 22309-22316	57
1668	High-efficiency small-molecule ternary solar cells with a hierarchical morphology enabled by synergizing fullerene and non-fullerene acceptors. **2018**, 3, 952-959	453

1667	Small-Molecule Electron Acceptors for Efficient Non-fullerene Organic Solar Cells. **2018**, 6, 414	43
1666	Boron dipyrromethene (BODIPY) with meso-perfluorinated alkyl substituents as near infrared donors in organic solar cells. **2018**, 6, 18583-18591	21
1665	Atomistic Insight Into Donor/Acceptor Interfaces in High-Efficiency Nonfullerene Organic Solar Cells. **2018**, 2, 1800190	33
1664	Diblock conjugated polyelectrolyte electron transport layer modulating the morphology of the active layer for efficient nonfullerene organic solar cells. **2018**, 29, 18458-18464	3
1663	Performance, Morphology, and Charge Recombination Correlations in Ternary Squaraine Solar Cells. **2018**, 30, 6810-6820	13
1662	Loss Mechanisms in Fullerene-Based Low-Donor Content Organic Solar Cells. **2018**, 122, 20611-20618	8
1661	An effective strategy for controlling the morphology of high-performance non-fullerene polymer solar cells without post-treatment: employing bare rigid aryl rings as lever arms in new asymmetric benzodithiophene. **2018**, 6, 18125-18132	20
1660	Perovskite/Organic Bulk-Heterojunction Integrated Ultrasensitive Broadband Photodetectors with High Near-Infrared External Quantum Efficiency over 70. **2018**, 14, e1802349	33
1659	Understanding the effects of the energy band alignment at the donor/acceptor interface on the open circuit voltage of organic photovoltaic devices. **2018**, 711, 113-117	8
1658	Influence of the alkyl chain lengths in perylenetetracarboxylic diimide (PTCDI) derivatives on the photovoltaic properties of planar organic solar cells. **2018**, 62, 429-433	4
1657	Alkyl Chain End Group Engineering of Small Molecule Acceptors for Non-Fullerene Organic Solar Cells. **2018**, 1, 4724-4730	18
1656	Effect of Side Groups on the Photovoltaic Performance Based on Porphyrin-Perylene Bisimide Electron Acceptors. **2018**, 10, 32454-32461	15
1655	Efficient non-fullerene organic solar cells employing sequentially deposited donor–acceptor layers. **2018**, 6, 18225-18233	36
1654	A new wide-bandgap conjugated polymer based on imide-fused benzotriazole for highly efficient nonfullerene polymer solar cells. **2018**, 158, 219-224	2
1653	Over 14% Efficiency in Organic Solar Cells Enabled by Chlorinated Nonfullerene Small-Molecule Acceptors. **2018**, 30, e1800613	538
1652	An extremely narrow band gap conjugated polymer for photovoltaic devices covering UV to near-infrared light. **2018**, 158, 319-325	8
1651	Improved charge transport ability of polymer solar cells by using NPB/MoO3 as anode buffer layer. **2018**, 170, 212-216	13
1650	Harmonious Compatibility Dominates Influence of Side-Chain Engineering on Morphology and Performance of Ternary Solar Cells. **2018**, 8, 1800616	36

1649	Quadrupolar D□A□D diketopyrrolopyrrole-based small molecule for ternary blend polymer solar cells. **2018**, 158, 213-218	15
1648	Efficient chemical structure and device engineering for achieving difluorinated 2,2?-bithiophene-based small molecular organic solar cells with 9.0% efficiency. **2018**, 6, 12493-12505	19
1647	Key Tradeoffs Limiting the Performance of Organic Photovoltaics. **2018**, 8, 1703551	44
1646	Optimized Fibril Network Morphology by Precise Side-Chain Engineering to Achieve High-Performance Bulk-Heterojunction Organic Solar Cells. **2018**, 30, e1707353	226
1645	Polyamino acid interlayer facilitates electron extraction in narrow band gap fullerene-free organic solar cells with an outstanding short-circuit current. **2018**, 50, 169-175	41
1644	Synthesis and photophysical characterization of isoindigo building blocks as molecular acceptors for organic photovoltaics. **2018**, 202, 196-206	3
1643	Panchromatic ternary organic solar cells with 9.44% efficiency incorporating porphyrin-based donors. **2018**, 10, 12100-12108	13
1642	-1 Isomers of tethered bismethano[70]fullerene as electron acceptors in organic photovoltaics.. **2018**, 8, 18316-18326	9
1641	Charge Pair Separation Dynamics in Organic Bulk-Heterojunction Solar Cells. **2018**, 1, 1800032	7
1640	In Situ Analysis of Solvent and Additive Effects on Film Morphology Evolution in Spin-Cast Small-Molecule and Polymer Photovoltaic Materials. **2018**, 8, 1800611	34
1639	Compositional engineering of acceptors for highly efficient bulk heterojunction hybrid organic solar cells. **2018**, 527, 172-179	6
1638	Toward ultra-low reflectance semi-transparent organic photovoltaic cells with biomimetic nanostructured transparent electrode. **2018**, 60, 38-44	8
1637	Non-fullerene-based small molecules as efficient n-type electron transporting layers in inverted organic□inorganic halide perovskite solar cells. **2018**, 65, 406-410	12
1636	Ternary non-fullerene polymer solar cells with an efficiency of 11.6% by simultaneously optimizing photon harvesting and phase separation. **2018**, 6, 11751-11758	29
1635	Solution-Processed High-Performance Tetrathienothiophene-Based Small Molecular Blends for Ambipolar Charge Transport. **2018**, 28, 1801025	21
1634	Highly Efficient Nonfullerene Polymer Solar Cells Enabled by a Copper(I) Coordination Strategy Employing a 1,3,4-Oxadiazole-Containing Wide-Bandgap Copolymer Donor. **2018**, 30, e1800737	69
1633	High-Efficiency Ternary Polymer Solar Cells Based on Intense FRET Energy Transfer Process. **2018**, 2, 1800101	29
1632	Adjusted photovoltaic performance of tetrafluorobenzene-based small molecules by tailoring with different arm of acceptor units. **2018**, 158, 402-411	9

1631	Self-doped polymer with fluorinated phenylene as hole transport layer for efficient polymer solar cells. **2018**, 61, 207-214	10
1630	Naphtho[1,2-:5,6-']bis[1,2,5]thiadiazole-Based Nonfullerene Acceptors: Effect of Substituents on the Thiophene Unit on Properties and Photovoltaic Characteristics. **2018**, 3, 5814-5824	4
1629	Ternary nonfullerene polymer solar cells with efficiency >13.7% by integrating the advantages of the materials and two binary cells. **2018**, 11, 2134-2141	193
1628	A small molecular electron acceptor based on asymmetric hexacyclic core of thieno[1,2-b]indaceno[5,6-b?]thienothiophene for efficient fullerene-free polymer solar cells. **2018**, 63, 845-852	22
1627	Manipulating Triplet Yield through Control of Symmetry-Breaking Charge Transfer. **2018**, 9, 3264-3270	26
1626	Revealing the effects of molecular packing on the performances of polymer solar cells based on A□□□A type non-fullerene acceptors. **2018**, 6, 12132-12141	80
1625	Organic and Organometallic Fluorinated Materials for Electronics and Optoelectronics: A Survey on Recent Research. **2018**, 2018, 3500-3519	55
1624	Environmentally friendly preparation of nanoparticles for organic photovoltaics. **2018**, 59, 432-440	18
1623	Stepwise heating in Stille polycondensation toward no batch-to-batch variations in polymer solar cell performance. **2018**, 9, 1867	33
1622	Asymmetrical Ladder-Type Donor-Induced Polar Small Molecule Acceptor to Promote Fill Factors Approaching 77% for High-Performance Nonfullerene Polymer Solar Cells. **2018**, 30, e1800052	199
1621	Design of a New Fused-Ring Electron Acceptor with Excellent Compatibility to Wide-Bandgap Polymer Donors for High-Performance Organic Photovoltaics. **2018**, 30, e1800403	152
1620	High-Performance Polymer Solar Cell with Single Active Material of Fully Conjugated Block Copolymer Composed of Wide-Band gap Donor and Narrow-Band gap Acceptor Blocks. **2018**, 10, 18974-18983	45
1619	Nonfullerene Acceptor with "Donor-Acceptor Combined □Bridge" for Organic Photovoltaics with Large Open-Circuit Voltage. **2018**, 10, 18984-18992	26
1618	Ternary Organic Solar Cells With 12.8% Efficiency Using Two Nonfullerene Acceptors With Complementary Absorptions. **2018**, 8, 1800424	81
1617	Hidden Structure Ordering Along Backbone of Fused-Ring Electron Acceptors Enhanced by Ternary Bulk Heterojunction. **2018**, 30, e1802888	177
1616	Optical In-Coupling in Organic Solar Cells. **2018**, 2, 1800123	12
1615	Regioregular polymers containing benzodithiophene and thienothiophene segments with different electron donating side chains for high-performance polymer solar cells. **2018**, 158, 249-258	3
1614	A theorectical design of performant chlorinated benzothiadiazole-based polymers as donor for organic photovoltaic devices. **2018**, 61, 46-55	5

1613	Effect of Active Layer Thickness on the Performance of Polymer Solar Cells Based on a Highly Efficient Donor Material of PTB7-Th. **2018**, 122, 16532-16539		30
1612	Employing Pentacene To Balance the Charge Transport in Inverted Organic Solar Cells. **2018**, 122, 17110-17117		5
1611	Toward Predicting Efficiency of Organic Solar Cells via Machine Learning and Improved Descriptors. **2018**, 8, 1801032		95
1610	Ternary Blend Polymer Solar Cells Based on Wide-bandgap Polymer PDCBT and Low-bandgap Polymer PTB7-Th. **2018**, 47, 1059-1062		8
1609	Dead Ends Limit Charge Carrier Extraction from All-Polymer Bulk Heterojunction Solar Cells. **2018**, 4, 1800144		11
1608	Progress in Poly (3-Hexylthiophene) Organic Solar Cells and the Influence of Its Molecular Weight on Device Performance. **2018**, 8, 1801001		72
1607	Influence of side chains on low optical bandgap copolymers based on 2,1,3-benzoxadiazole for polymer solar cells. **2018**, 61, 261-265		2
1606	Revisiting the Impact of Interfacial Transport Layers on Organic Bulk Heterojunction Systems. **2018**, 1, 3457-3468		7
1605	Morphology Optimization via Side Chain Engineering Enables All-Polymer Solar Cells with Excellent Fill Factor and Stability. *Journal of the American Chemical Society*, **2018**, 140, 8934-8943	16.4	171
1604	Design and synthesis of medium-bandgap small-molecule electron acceptors for efficient tandem solar cells. **2018**, 6, 13588-13592		16
1603	Bandgap Narrowing in Non-Fullerene Acceptors: Single Atom Substitution Leads to High Optoelectronic Response Beyond 1000 nm. **2018**, 8, 1801212		86
1602	Toward a Universally Compatible Non-Fullerene Acceptor: Multi-Gram Synthesis, Solvent Vapor Annealing Optimization, and BDT-Based Polymer Screening. **2018**, 2, 1800143		21
1601	Asymmetrical Small Molecule Acceptor Enabling Nonfullerene Polymer Solar Cell with Fill Factor Approaching 79%. **2018**, 3, 1760-1768		90
1600	Improved light harvesting efficiency of semitransparent organic solar cells enabled by broadband/omnidirectional subwavelength antireflective architectures. **2018**, 6, 14769-14779		29
1599	Manipulating active layer morphology of molecular donor/polymer acceptor based organic solar cells through ternary blends. **2018**, 61, 1025-1033		16
1598	Fluorination vs. chlorination: a case study on high performance organic photovoltaic materials. **2018**, 61, 1328-1337		142
1597	Short-axis substitution approach on ladder-type benzodithiophene-based electron acceptor toward highly efficient organic solar cells. **2018**, 61, 1405-1412		14
1596	New Thieno[3,2-b]thiophene-Based Acceptor: Tuning Acceptor Strength of Ladder-Type N-Type Materials to Simultaneously Achieve Enhanced Voc and Jsc of Nonfullerene Solar Cells. **2018**, 3, 1722-1729		50

1595	Fullerenes: the stars of photovoltaics. **2018**, 2, 2480-2493		63
1594	Organic Photovoltaics over Three Decades. **2018**, 30, e1800388		360
1593	Mapping Nonfullerene Acceptors with a Novel Wide Bandgap Polymer for High Performance Polymer Solar Cells. **2018**, 8, 1801214		40
1592	Developing design criteria for organic solar cells using well-absorbing non-fullerene acceptors. **2018**, 1,		15
1591	A novel bifunctional ADA type small molecule for efficient organic solar cells. **2018**, 2, 1626-1630		10
1590	Effect of Isomerization on High-Performance Nonfullerene Electron Acceptors. *Journal of the American Chemical Society*, **2018**, 140, 9140-9147	16.4	296
1589	A minimal non-radiative recombination loss for efficient non-fullerene all-small-molecule organic solar cells with a low energy loss of 0.54 eV and high open-circuit voltage of 1.15 V. **2018**, 6, 13918-13924		42
1588	Synthesis and optical and electrochemical properties of polycyclic aromatic compounds based on bis(benzothiophene)-fused fluorene. **2018**, 21, 854-861		3
1587	Achieving over 11% power conversion efficiency in PffBT4T-2OD-based ternary polymer solar cells with enhanced open-circuit-voltage and suppressed charge recombination. **2018**, 44, 155-163		77
1586	A new polymer donor for efficient polymer solar cells: simultaneously realizing high short-circuit current density and transparency. **2018**, 6, 14700-14708		16
1585	Cyanovinylene-based copolymers synthesized by tin-free Knoevenagel polycondensation for high efficiency polymer solar cells. **2018**, 6, 8020-8027		7
1584	Angular-Shaped 4,9-Dialkylnaphthodithiophene-Based Octacyclic Ladder-Type Non-Fullerene Acceptors for High Efficiency Ternary-Blend Organic Photovoltaics. **2018**, 30, 4968-4977		34
1583	An Electron Acceptor with Broad Visible–NIR Absorption and Unique Solid State Packing for As-Cast High Performance Binary Organic Solar Cells. **2018**, 28, 1802324		99
1582	Metal Ion/Dendrimer Complexes with Tunable Work Functions in a Wide Range and Their Application as Electron- and Hole-Transport Materials of Non-Fullerene Organic Solar Cells. **2018**, 28, 1802554		10
1581	Controlling Molecular Weight to Achieve High-Efficient Polymer Solar Cells With Unprecedented Fill Factor of 79% Based on Non-Fullerene Small Molecule Acceptor. **2018**, 2, 1800129		14
1580	Controlling the interchain packing and photovoltaic properties via fluorine substitution in terpolymers based on benzo[1,2-c:4,5-c']dithiophene-4,8-dione and benzothiadiazole units. **2018**, 148, 330-338		19
1579	Nonfullerene Polymer Solar Cells Reaching a 9.29% Efficiency Using a BODIPY-Thiophene Backboned Donor Material. **2018**, 1, 3359-3368		15
1578	Improved Efficiency of Polymer Solar Cells by Modifying the Side Chain of Wide-Band Gap Conjugated Polymers Containing Pyrrolo[3,4- f]benzotriazole-5,7(6 H)-dione Moiety. **2018**, 10, 22495-22503		19

1577	Ultrafast Channel II process induced by a 3-D texture with enhanced acceptor order ranges for high-performance non-fullerene polymer solar cells. **2018**, 11, 2569-2580	59
1576	Stability of organic solar cells with PCDTBT donor polymer: An interlaboratory study. **2018**, 33, 1909-1924	9
1575	Sensitivity of Molecular Packing and Photovoltaic Performance to Subtle Fluctuation of Steric Distortions within DA Copolymer Backbones. **2018**, 1, 4332-4340	9
1574	A wide-bandgap polymer based on the alkylphenyl-substituted benzo[1,2-b:4,5-b?]dithiophene unit with high power conversion efficiency of over 11%. **2018**, 6, 16529-16536	21
1573	A chlorinated low-bandgap small-molecule acceptor for organic solar cells with 14.1% efficiency and low energy loss. **2018**, 61, 1307-1313	184
1572	Efficient and thermally stable all-polymer solar cells based on a fluorinated wide-bandgap polymer donor with high crystallinity. **2018**, 6, 16403-16411	23
1571	Enhance the performance of polymer solar cells via extension of the flanking end groups of fused ring acceptors. **2018**, 61, 1320-1327	20
1570	Effect of Ring-Fusion on Miscibility and Domain Purity: Key Factors Determining the Performance of PDI-Based Nonfullerene Organic Solar Cells. **2018**, 8, 1800234	59
1569	Optical Gaps of Organic Solar Cells as a Reference for Comparing Voltage Losses. **2018**, 8, 1801352	211
1568	Optimization of conjugated polymer blend concentration for high performance organic solar cells. **2018**, 29, 16437-16445	4
1567	N-Annulated perylene diimide derivatives as non-fullerene acceptors for solution-processed solar cells with an open-circuit voltage of up to 1.14 V. **2018**, 42, 15079-15087	19
1566	De novo design of small molecule acceptors via fullerene/non-fullerene hybrids for polymer solar cells. **2018**, 54, 9801-9804	10
1565	A Biomimetic Supramolecular Approach for Charge Transfer between Donor and Acceptor Chromophores with Aggregation-Induced Emission. **2018**, 24, 14668-14678	12
1564	Laser-Induced Morphology Change Based on Small Molecular Model Compounds Photo-Detector. **2018**, 26, 973-977	2
1563	Synergistic Effects of Fluorination and Alkylthiolation on the Photovoltaic Performance of the Poly(benzodithiophene-benzothiadiazole) Copolymers. **2018**, 1, 4686-4694	8
1562	Modulation of End Groups for Low-Bandgap Nonfullerene Acceptors Enabling High-Performance Organic Solar Cells. **2018**, 8, 1801203	86
1561	Effects of alkyl side chain length of low bandgap naphtho[1,2-c:5,6-c?]bis[1,2,5]thiadiazole-based copolymers on the optoelectronic properties of polymer solar cells. **2018**, 56, 2059-2071	15
1560	Highly Efficient Non-Fullerene Polymer Solar Cells Enabled by Wide Bandgap Copolymers With Conjugated Selenyl Side Chains. **2018**, 2, 1800186	18

1559	Iris-Like Acceptor with Most PDI Units for Organic Solar Cells. **2018**, 10, 28812-28818	26
1558	All-conjugated amphiphilic diblock copolymers for improving morphology and thermal stability of polymer/nanocrystals hybrid solar cells. **2018**, 12, 225-238	2
1557	Efficient ternary organic solar cells with high absorption coefficient DIB-SQ as the third component. **2018**, 27, 058802	5
1556	Bimolecular recombination and fill factor in crystalline polymer solar cells. **2018**, 57, 08RE01	5
1555	Passivating ZnO Surface States by C60 Pyrrolidine Tris-Acid for Hybrid Solar Cells Based on Poly(3-hexylthiophene)/ZnO Nanorod Arrays. **2017**, 10,	6
1554	Efficient Organic Solar Cells with Extremely High Open-Circuit Voltages and Low Voltage Losses by Suppressing Nonradiative Recombination Losses. **2018**, 8, 1801699	97
1553	Moleculars Materials in Optoelectronics and Photovoltaic Devices. **2018**, 365-380	
1552	A low-bandgap dimeric porphyrin molecule for 10% efficiency solar cells with small photon energy loss. **2018**, 6, 18469-18478	29
1551	Effects of fused-ring regiochemistry on the properties and photovoltaic performance of n-type organic semiconductor acceptors. **2018**, 6, 15933-15941	23
1550	Extended Conjugation Length of Nonfullerene Acceptors with Improved Planarity via Noncovalent Interactions for High-Performance Organic Solar Cells. **2018**, 8, 1801618	79
1549	Efficient organic solar cells based on PTB7/PC71BM blend film with embedded different shapes silver nanoparticles into PEDOT:PSS as hole transporting layers. **2018**, 62, 95-101	21
1548	An Electron-Transporting Thiazole-Based Polymer Synthesized Through Direct (Hetero)Arylation Polymerization. **2018**, 23,	3
1547	Suppressing the Surface Recombination and Tuning the Open-Circuit Voltage of Polymer/Fullerene Solar Cells by Implementing an Aggregative Ternary Compound. **2018**, 10, 28803-28811	13
1546	Phthalimide and naphthalimide: Effect of end-capping groups on molecular properties and photovoltaic performance of 9-fluorenone based acceptors for organic solar cells. **2018**, 62, 12-20	5
1545	Nonfullerene Acceptors with Enhanced Solubility and Ordered Packing for High-Efficiency Polymer Solar Cells. **2018**, 3, 1832-1839	96
1544	Design and chemical engineering of carbazole-based donor small molecules for organic solar cell applications. **2018**, 29, 14842-14851	5
1543	Highly Efficient Organic Solar Cells Based on S,N-Heteroacene Non-Fullerene Acceptors. **2018**, 30, 5429-5434	158
1542	Understanding the Enhanced Open-Circuit Voltage of Polymer Solar Cells Based on a Diketopyrrolopyrrole Small Molecular Acceptor. **2018**, 10, 25589-25593	7

1541	Toward Efficient Polymer Solar Cells Processed by a Solution-Processed Layer-By-Layer Approach. **2018**, 30, e1802499	83
1540	Over 100-nm-Thick MoOx Films with Superior Hole Collection and Transport Properties for Organic Solar Cells. **2018**, 8, 1800698	25
1539	Improving the Charge Carrier Transport and Suppressing Recombination of Soluble Squaraine-Based Solar Cells via Parallel-Like Structure. **2018**, 11,	8
1538	Novel Conjugated Polymers Prepared by Direct (Hetero) arylation: An Eco-Friendly Tool for Organic Electronics. **2018**, 23,	8
1537	Direct (Hetero)Arylation Polymerization of a Spirobifluorene and a Dithienyl-Diketopyrrolopyrrole Derivative: New Donor Polymers for Organic Solar Cells. **2018**, 23,	9
1536	Performance Comparisons of Polymer Semiconductors Synthesized by Direct (Hetero)Arylation Polymerization (DHAP) and Conventional Methods for Organic Thin Film Transistors and Organic Photovoltaics. **2018**, 23,	14
1535	Diphenylphenoxy-Thiophene-PDI Dimers as Acceptors for OPV Applications with Open Circuit Voltage Approaching 1 Volt. **2018**, 8,	5
1534	Recent Advances of Plasmonic Organic Solar Cells: Photophysical Investigations. **2018**, 10,	49
1533	Polymeric Materials for Conversion of Electromagnetic Waves from the Sun to Electric Power. **2018** , 10,	6
1532	Synthesis and Photovoltaic Properties of 2D-Conjugated Polymers Based on Alkylthiothienyl-Substituted Benzodithiophene and Different Accepting Units. **2018**, 10,	10
1531	PANI Branches onto Donor-Acceptor Copolymers: Synthesis, Characterization and Electroluminescent Properties of New 2D-Materials. **2018**, 10,	10
1530	Printable MoO Anode Interlayers for Organic Solar Cells. **2018**, 30, e1801718	50
1529	Overcoming Space-Charge Effect for Efficient Thick-Film Non-Fullerene Organic Solar Cells. **2018**, 8, 1801609	48
1528	Wide-Bandgap Small Molecular Acceptors Based on a Weak Electron-Withdrawing Moiety for Efficient Polymer Solar Cells. **2018**, 2, 1800120	24
1527	Enhanced oxidation power in photoelectrocatalysis based on a micrometer-localized positive potential in a terrace hetero p□ junction. **2018**, 10, 630-641	4
1526	Design rules for minimizing voltage losses in high-efficiency organic solar cells. **2018**, 17, 703-709	500
1525	All-small molecule solar cells based on donor molecule optimization with highly enhanced efficiency and stability. **2018**, 6, 15675-15683	45
1524	A Highly Efficient Non-Fullerene Organic Solar Cell with a Fill Factor over 0.80 Enabled by a Fine-Tuned Hole-Transporting Layer. **2018**, 30, e1801801	299

1523	Nonfullerene small-molecule acceptors with perpendicular side-chains for fullerene-free solar cells. **2018**, 6, 15433-15455		69
1522	A Highly Crystalline Fused-Ring n-Type Small Molecule for Non-Fullerene Acceptor Based Organic Solar Cells and Field-Effect Transistors. **2018**, 28, 1802895		63
1521	Hot Charge Carrier Extraction from Semiconductor Quantum Dots. **2018**, 122, 17586-17600		26
1520	1,4-Di(3-alkoxy-2-thienyl)-2,5-difluorophenylene: A Building Block Enabling High-Performance Polymer Semiconductors with Increased Open-Circuit Voltages. **2018**, 51, 5352-5363		13
1519	High-Performance Ternary Nonfullerene Polymer Solar Cells with Both Improved Photon Harvesting and Device Stability. **2018**, 10, 25594-25603		30
1518	Enhanced Organic Solar Cell Performance by Lateral Side Chain Engineering on Benzodithiophene-Based Small Molecules. **2018**, 1, 3684-3692		6
1517	Thickness insensitive polymer solar cells employing D-A1-D-A2 random terpolymers based on different thiophene units as electron-donor. **2018**, 62, 56-64		6
1516	Asymmetric thieno[2,3-b]thiophene-based electron acceptor featuring a seven fused-ring electron donor unit as core for nonfullerene organic photovoltaics. **2018**, 62, 82-88		14
1515	Noncovalent phosphorylation of graphene oxide with improved hole transport in high-efficiency polymer solar cells. **2018**, 10, 14840-14846		12
1514	Erbium (III) tris(8-hydroxyquinoline) doped zinc oxide interfacial layer for improved performance of polymer solar cells. **2018**, 62, 65-71		12
1513	Utilizing Benzotriazole and Indacenodithiophene Units to Construct Both Polymeric Donor and Small Molecular Acceptors to Realize Organic Solar Cells With High Open-Circuit Voltages Beyond 1.2 V. **2018**, 6, 147		17
1512	Nonfullerene Acceptors for Semitransparent Organic Solar Cells. **2018**, 8, 1800002		123
1511	High Performance Ternary Organic Solar Cells due to Favored Interfacial Connection by a Non-Fullerene Electron Acceptor with Cross-Like Molecular Geometry. **2018**, 122, 11305-11311		15
1510	A Wide Band Gap Polymer with a Deep Highest Occupied Molecular Orbital Level Enables 14.2% Efficiency in Polymer Solar Cells. *Journal of the American Chemical Society*, **2018**, 140, 7159-7167	16.4	579
1509	Photo-stability study of a solution-processed small molecule solar cell system: correlation between molecular conformation and degradation. **2018**, 19, 194-202		9
1508	Enhancing Polymer Photovoltaic Performance via Optimized Intramolecular Ester-Based Noncovalent Sulfur□Oxygen Interactions. **2018**, 51, 3874-3885		41
1507	Synthesis and Photovoltaic Properties of A Dithieno[6,5-b:10,11-b?]-8H-Cyclopentyl[1,2-b:4,3-b?]Diphenanthrene based Donor-Acceptor Alternating Copolymer. **2018**, 33, 288-295		
1506	Low Energy Gap Triphenylamine□Heteropentacene□Dicyanovinyl Triad for Solution-Processed Bulk-Heterojunction Solar Cells. **2018**, 122, 11262-11269		6

1505	Evolution of Isoindigo-Based Electron-Deficient Units for Organic Electronics: From Natural Dyes to Organic Semiconductors. **2018**, 7, 2147-2160	10
1504	High-Performance Green Solvent Processed Ternary Blended All-Polymer Solar Cells Enabled by Complementary Absorption and Improved Morphology. **2018**, 2, 1800196	21
1503	Pt complex-based terpolymer acceptors linked through ancillary ligand for all-polymer solar cells. **2018**, 6, 9903-9913	14
1502	Designing an asymmetrical isomer to promote the LUMO energy level and molecular packing of a non-fullerene acceptor for polymer solar cells with 12.6% efficiency. **2018**, 9, 8142-8149	56
1501	An easily prepared self-assembled interface layer upon active layer doping facilitates charge transfer in polymer solar cells. **2018**, 285, 365-372	4
1500	Constructing Desired Vertical Component Distribution Within a PBDB-T:ITIC-M Photoactive Layer via Fine-Tuning the Surface Free Energy of a Titanium Chelate Cathode Buffer Layer. **2018**, 6, 292	18
1499	Exploring photophysical processes in a ternary-blended polymer solar cell. **2018**, 153, 398-407	8
1498	Rationalizing Small-Molecule Donor Design toward High-Performance Organic Solar Cells: Perspective from Molecular Architectures. **2018**, 1, 1800091	20
1497	Corrole-BODIPY Dyad as Small-Molecule Donor for Bulk Heterojunction Solar Cells. **2018**, 10, 31462-31471	27
1496	Quadruple Junction Polymer Solar Cells with Four Complementary Absorber Layers. **2018**, 30, e1803836	12
1495	High-efficiency quaternary polymer solar cells enabled with binary fullerene additives to reduce nonfullerene acceptor optical band gap and improve carriers transport. **2018**, 61, 1609-1618	25
1494	Tris(8-hydroxyquinoline)aluminum(III)-Cored Molecular Cathode Interlayer: Improving Electron Mobility and Photovoltaic Efficiency of Polymer Solar Cells. **2018**, 2, 1800182	14
1493	Role of Charge-Transfer State in Perylene-Based Organic Solar Cells. **2018**, 3, 9204-9210	2
1492	Naphthobistriazole-based wide bandgap donor polymers for efficient non-fullerene organic solar cells: Significant fine-tuning absorption and energy level by backbone fluorination. **2018**, 53, 258-269	31
1491	Chemical optimization of benzo-dithiophene and benzo-[2,1,3]thiadiazole copolymers for the high performance, green-solvent-processed polymer solar cells. **2018**, 173, 1043-1050	2
1490	Förster Resonance Energy Transfer Drives Higher Efficiency in Ternary Blend Organic Solar Cells. **2018**, 1, 4874-4882	27
1489	Ternary organic solar cells with a phase-modulated surface distribution via the addition of a small molecular luminescent dye to obtain a high efficiency over 10.5. **2018**, 10, 16455-16467	12
1488	Carboxylate substitution position influencing polymer properties and enabling non-fullerene organic solar cells with high open circuit voltage and low voltage loss. **2018**, 6, 16874-16881	9

1487	Hydrogen bond induced high performance ternary fullerene-free organic solar cells with increased current density and enhanced stability. **2018**, 6, 9691-9702	24
1486	Effects of conjugated bridges on the photovoltaic properties of ortho-functionalized perylene diimides for non-fullerene polymer solar cells. **2018**, 6, 13171-13178	9
1485	Improved efficiency in fullerene and non-fullerene polymer solar cells having an interdigitated interface with the electron transport layer. **2018**, 2, 1859-1865	6
1484	Morphology Control Enables Efficient Ternary Organic Solar Cells. **2018**, 30, e1803045	197
1483	Recent advances in electron acceptors with ladder-type backbone for organic solar cells. **2018**, 6, 17256-17287	45
1482	Organic and solution-processed tandem solar cells with 17.3% efficiency. **2018**, 361, 1094-1098	1905
1481	Fine Tuning the Light Distribution within the Photoactive Layer by Both Solution-Processed Anode and Cathode Interlayers for High Performance Polymer Solar Cells. **2018**, 2, 1800141	9
1480	A tetrachlorinated molecular non-fullerene acceptor for high performance near-IR absorbing organic solar cells. **2018**, 6, 9060-9064	16
1479	Efficient heterojunction solar cells based on the synergy between planarity and dipole moment in fluorinated-thienothiophenes-based donor-acceptor polymers. **2018**, 245, 42-50	7
1478	A Spectral Density Function Approach for Active Layer Design of Organic Photovoltaic Cells. **2018**, 140,	15
1477	Importance of Nucleation during Morphology Evolution of the Blade-Cast PffBT4T-2OD-Based Organic Solar Cells. **2018**, 51, 6682-6691	24
1476	Closely packed, low reorganization energy Ɛextended postfullerene acceptors for efficient polymer solar cells. **2018**, 115, E8341-E8348	85
1475	Investigating the influence of charge transport on the performance of PTB7:PCBM based organic solar cells. **2018**, 20, 17304-17312	6
1474	Aggregation Strength Tuning in Difluorobenzoxadiazole-Based Polymeric Semiconductors for High-Performance Thick-Film Polymer Solar Cells. **2018**, 10, 21481-21491	19
1473	Origin of Photocurrent in Fullerene-Based Solar Cells. **2018**, 122, 15140-15148	15
1472	Beyond Fullerenes: Indacenodithiophene-Based Organic Charge-Transport Layer toward Upscaling of Low-Cost Perovskite Solar Cells. **2018**, 10, 22143-22155	20
1471	Dithienosilole-based small molecule donors for efficient all-small-molecule organic solar cells. **2018**, 158, 445-450	6
1470	Combining Fullerenes and Zwitterions in Non-Conjugated Polymer Interlayers to Raise Solar Cell Efficiency. **2018**, 57, 9675-9678	31

1469	1D/2A ternary blend active layer enables as-cast polymer solar cells with higher efficiency, better thickness tolerance, and higher thermal stability. **2018**, 61, 359-365	16
1468	Uniaxial Anisotropy in PEDOT:PSS Electrodes Enhances the Photocurrent at Oblique Incidence in Organic Solar Cells. **2018**, 5, 3023-3030	7
1467	Aromatic end-capped acceptor effects on molecular stacking and the photovoltaic performance of solution-processable small molecules. **2018**, 6, 22077-22085	13
1466	A helical perylene diimide-based acceptor for non-fullerene organic solar cells: synthesis, morphology and exciton dynamics. **2018**, 5, 172041	3
1465	Near-Infrared Small Molecule Acceptor Enabled High-Performance Nonfullerene Polymer Solar Cells with Over 13% Efficiency. **2018**, 28, 1803128	70
1464	Significance of Polymeric Nanowire-Network Structures for Stable and Efficient Organic Solar Cells. **2018**, 26, 623-629	8
1463	Direct arylation polymerization: A guide to optimal conditions for effective conjugated polymers. **2018**, 83, 135-201	75
1462	Polymer with a 3D conductive network: a thickness-insensitive electron transport layer for inverted polymer solar cells. **2018**, 6, 12969-12973	21
1461	Organic Flexible Electronics. **2018**, 2, 1800070	106
1460	Pyrrole N-alkyl side chain effects on the properties of pyrrolo[3,4-c]pyrrole-1,3-dione-based polymers for polymer solar cells. **2018**, 42, 12045-12053	4
1459	Current Status of Outdoor Lifetime Testing of Organic Photovoltaics. **2018**, 5, 1800434	59
1458	Enhancing the Performance of Organic Solar Cells by Hierarchically Supramolecular Self-Assembly of Fused-Ring Electron Acceptors. **2018**, 30, 4307-4312	95
1457	Visible and Near-Infrared Imaging with Nonfullerene-Based Photodetectors. **2018**, 3, 1800104	60
1456	Combining Fullerenes and Zwitterions in Non-Conjugated Polymer Interlayers to Raise Solar Cell Efficiency. **2018**, 130, 9823-9826	4
1455	Charge Transfer and Aggregation Effects on the Performance of Planar vs Twisted Nonfullerene Acceptor Isomers for Organic Solar Cells. **2018**, 30, 4263-4276	29
1454	Roll-to-Roll Slot-Die-Printed Polymer Solar Cells by Self-Assembly. **2018**, 10, 22485-22494	22
1453	A comparative study of the effects of terminal aromatic moieties in spirobifluorene core-based diketopyrrolopyrrole non-fullerene acceptors. **2018**, 42, 11854-11861	5
1452	Subphthalocyanine-cored star-shaped electron acceptors with perylene diimide wings for non-fullerene solar cells. **2018**, 6, 7141-7148	11

1451	Small Molecule Based Non-Fullerene Acceptors: A Comparative Study. **2018**, 18, 1350-1364	12
1450	A review on morphology engineering for highly efficient and stable hybrid perovskite solar cells. **2018**, 6, 12842-12875	115
1449	Correlating Three-dimensional Morphology With Function in PBDB-T:IT-M Non-Fullerene Organic Solar Cells. **2018**, 2, 1800114	39
1448	Robot-Based High-Throughput Engineering of Alcoholic Polymer: Fullerene Nanoparticle Inks for an Eco-Friendly Processing of Organic Solar Cells. **2018**, 10, 23225-23234	33
1447	Alkoxy-Induced Near-Infrared Sensitive Electron Acceptor for High-Performance Organic Solar Cells. **2018**, 30, 4150-4156	66
1446	Quinoxaline-Based Wide Band Gap Polymers for Efficient Nonfullerene Organic Solar Cells with Large Open-Circuit Voltages. **2018**, 10, 23235-23246	30
1445	Recent Advances in Morphology Optimization for Organic Photovoltaics. **2018**, 30, e1800453	136
1444	Three-Dimensional Observation of a Light-Soaked Photoreactant Layer in BTR:PCBM Solar Cells Treated with/without Solvent Vapor Annealing. **2018**, 10, 21973-21984	6
1443	A Near-Infrared Photoactive Morphology Modifier Leads to Significant Current Improvement and Energy Loss Mitigation for Ternary Organic Solar Cells. **2018**, 5, 1800755	85
1442	Improved photovoltaic performance of 2,7-pyrene based small molecules via the use of 3-carbazole as terminal unit. **2018**, 74, 3989-3995	5
1441	Synthesis and photovoltaic properties of a small molecule acceptor with thienylenevinylene thiophene as □bridge. **2019**, 160, 227-233	5
1440	Thieno[3,2-b]indole (TI) bridged A-D-A small molecules: Synthesis, characterizations and organic solar cell applications. **2019**, 160, 16-24	12
1439	Star-shaped small molecule acceptors with a subphthalocyanine core for solution-processed non-fullerene solar cells. **2019**, 160, 243-251	15
1438	Electronic, optical, and charge transport properties of A-□A electron acceptors for organic solar cells: Impact of anti-aromatic □structures. **2019**, 30, 211-216	5
1437	High-performance asymmetric small molecular donor materials based on indenothiophene for solution-processed organic solar cells. **2019**, 31, 27-33	1
1436	Alkyl side-chain and fluorination engineering in the indeno[1,2-b]fluorene-based small-molecule acceptors for efficient non-fullerene organic solar cells. **2019**, 160, 432-438	11
1435	Effect of Crystallinity Modulation between Electron Transport Layer and Photo-Generation Materials on ZnO-Based Polymer Solar Cells. **2019**, 7, 263-268	7
1434	A versatile small molecular electron donor with 2-dimensional conjugation structure for efficient organic solar cells compatible with both fullerene and non-fullerene electron acceptors. **2019**, 161, 214-220	1

1433	Predicting synthesizability. **2019**, 52,	161
1432	Polymer Donors for High-Performance Non-Fullerene Organic Solar Cells. **2019**, 58, 4442-4453	270
1431	Backbone Coplanarity Tuning of 1,4-Di(3-alkoxy-2-thienyl)-2,5-difluorophenylene-Based Wide Bandgap Polymers for Efficient Organic Solar Cells Processed from Nonhalogenated Solvent. **2019**, 11, 31119-31128	11
1430	Simple Approach to Overcome Thickness Tolerance of Interlayer without Sacrificing the Performances of Polymer Solar Cells. **2019**, 6, 1900797	4
1429	Molecular Tuning of Titanium Complexes with Controllable Work Function for Efficient Organic Photovoltaics. **2019**, 123, 20800-20807	2
1428	Fused Cyclopentadithienothiophene Acceptor Enables Ultrahigh Short-Circuit Current and High Efficiency >11% in As-Cast Organic Solar Cells. **2019**, 29, 1904956	18
1427	Amorphous electron donors with controllable morphology for non-fullerene polymer solar cells. **2019**, 7, 10881-10890	4
1426	Methane-perylene diimide-based small molecule acceptors for high efficiency non-fullerene organic solar cells. **2019**, 7, 10901-10907	11
1425	Polymer solar cells employing conjugated polyelectrolytes with different countercations. **2019**, 297, 1313-1319	2
1424	Non-fullerene Acceptors for Harvesting Excitons from Semiconducting Carbon Nanotubes. **2019**, 123, 21395-21402	9
1423	Vertically Oriented BiI Template Featured BiI/Polymer Heterojunction for High Photocurrent and Long-Term Stable Solar Cells. **2019**, 11, 32509-32516	20
1422	High-efficiency ternary nonfullerene organic solar cells fabricated with a near infrared acceptor enhancing exciton utilization and extending absorption. **2019**, 7, 10498-10506	20
1421	Thioether Bond Modification Enables Boosted Photovoltaic Performance of Nonfullerene Polymer Solar Cells. **2019**, 11, 32218-32224	15
1420	Isomerically Pure Benzothiophene-Incorporated Acceptor: Achieving Improved and of Nonfullerene Organic Solar Cells via End Group Manipulation. **2019**, 11, 33179-33187	26
1419	16.7%-efficiency ternary blended organic photovoltaic cells with PCBM as the acceptor additive to increase the open-circuit voltage and phase purity. **2019**, 7, 20713-20722	186
1418	Elemental Nanoanalysis of Interfacial Alumina–Aryl Fluoride Interactions in Fullerene-Free Organic Tandem Solar Cells. **2019**, 6, 1901053	6
1417	A General Approach for Lab-to-Manufacturing Translation on Flexible Organic Solar Cells. **2019**, 31, e1903649	81
1416	Slot-Die and Roll-to-Roll Processed Single Junction Organic Photovoltaic Cells with the Highest Efficiency. **2019**, 9, 1901805	44

1415	Enhancing Open-Circuit Voltage and Charge Transportation for Ternary Organic Solar Cells With Energy Cascade Double Nonfullerene Acceptors. **2019**, 9, 1290-1296	4
1414	Observing electron transport and percolation in selected bulk heterojunctions bearing fullerene derivatives, non-fullerene small molecules, and polymeric acceptors. **2019**, 64, 103950	25
1413	Single-Junction Organic Solar Cell Containing a Fluorinated Heptacyclic Carbazole-Based Ladder-Type Acceptor Affords over 13% Efficiency with Solution-Processed Cross-Linkable Fullerene as an Interfacial Layer. **2019**, 11, 31069-31077	23
1412	Band-gap tunable thiadiazolo[3,4-g]quinoxaline derivatives as non-fullerene acceptors in organic photovoltaic cells processed from low toxic ethanol/anisole mixtures. **2019**, 43, 14246-14256	6
1411	Fluorinated Low-Dimensional Ruddlesden-Popper Perovskite Solar Cells with over 17% Power Conversion Efficiency and Improved Stability. **2019**, 31, e1901673	125
1410	. **2019**, 9, 1266-1272	3
1409	Reduced Nonradiative Energy Loss Caused by Aggregation of Nonfullerene Acceptor in Organic Solar Cells. **2019**, 9, 1901823	53
1408	13.9%-Efficiency and Eco-Friendly Nonfullerene Polymer Solar Cells Obtained by Balancing Molecular Weight and Solubility in Chlorinated Thiophene-Based Polymer Backbones. **2019**, 15, e1902598	29
1407	Cold Crystallization Temperature Correlated Phase Separation, Performance, and Stability of Polymer Solar Cells. **2019**, 1, 1316-1330	32
1406	Tuning of the conformation of asymmetric nonfullerene acceptors for efficient organic solar cells. **2019**, 7, 22279-22286	47
1405	Design of a Rigid Scaffold Structure toward Efficient and Stable Organic Photovoltaics. **2019**, 1, 402-411	8
1404	Regio-Specific Selenium Substitution in Non-Fullerene Acceptors for Efficient Organic Solar Cells. **2019**, 31, 6770-6778	41
1403	Composite materials of P3HT:PCBM with pyrene substituted zinc(II) phthalocyanines: Characterisation and application in organic solar cells. **2019**, 189, 1-7	10
1402	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. **2019**, 7, 20274-20284	27
1401	Energy level gamut-a wide-angle lens to look at photoelectronic properties of diketopyrrolopyrrole-benzothiadiazole-based small molecules. **2019**, 25, 224	
1400	Computational Study on the Search for Non-Fullerene Acceptors, Examination of Interface Geometry, and Investigation of Electron Transfer. **2019**, 123, 17678-17685	6
1399	Resolving the Mechanisms of Photocurrent Improvement in Ternary Organic Solar Cells. **2019**, 123, 18294-18302	25
1398	Star-Shaped Fused-Ring Electron Acceptors with a -Symmetric and Electron-Rich Benzotri(cyclopentadithiophene) Core for Efficient Nonfullerene Organic Solar Cells. **2019**, 11, 28115-28124	13

1397	Effects of energy-level offset between a donor and acceptor on the photovoltaic performance of non-fullerene organic solar cells. **2019**, 7, 18889-18897	57
1396	Fluorinated Photovoltaic Materials for High-Performance Organic Solar Cells. **2019**, 14, 3085-3095	49
1395	Stability of Charge Transfer States in F4TCNQ-Doped P3HT. **2019**, 31, 6986-6994	25
1394	Carbon□xygen-bridged hexacyclic non-fullerene acceptors with chlorinated end groups. **2019**, 3, 1859-1865	13
1393	Star-Shaped Non-Fullerene Small Acceptors for Organic Solar Cells. **2019**, 12, 4570-4600	20
1392	Nonfullerene Acceptors for Organic Photovoltaics: From Conformation Effect to Power Conversion Efficiencies Prediction. **2019**, 3, 1900258	10
1391	Side chain engineering in DTBDT-based small molecules for efficient organic photovoltaics. **2019**, 11, 13845-13852	2
1390	A chlorinated non-fullerene acceptor for efficient polymer solar cells. **2019**, 30, 2343-2346	19
1389	Intramolecular charge transfer and solvation dynamics of push-pull dyes with different □conjugated linkers. **2019**, 21, 17323-17331	15
1388	Methyl red/ indium-tin-oxide organic diode: An electrical and optoelectronic study. **2019**, 216, 111053	5
1387	Ternary Blended Fullerene-Free Polymer Solar Cells with 16.5% Efficiency Enabled with a Higher-LUMO-Level Acceptor to Improve Film Morphology. **2019**, 9, 1901728	181
1386	Lead Halide Perovskite Quantum Dots To Enhance the Power Conversion Efficiency of Organic Solar Cells. **2019**, 58, 12696-12704	19
1385	Synthesis by direct arylation reaction of photovoltaic D□A polymers based on fluorene-thiophene- fragment and fluorinated benzothiadiazole derivatives. **2019**, 30, 13974-13983	0
1384	Development of s-tetrazine-based polymers for efficient polymer solar cells by controlling appropriate molecular aggregation. **2019**, 171, 107717	8
1383	Impact of Nonfullerene Acceptor Side Chain Variation on Transistor Mobility. **2019**, 5, 1900344	30
1382	Lead Halide Perovskite Quantum Dots To Enhance the Power Conversion Efficiency of Organic Solar Cells. **2019**, 131, 12826-12834	7
1381	Impact of the Siloxane-Terminated Side Chain on Photovoltaic Performances of the Dithienylbenzodithiophene-Difluorobenzotriazole-Based Wide Band Gap Polymer Donor in Non-Fullerene Polymer Solar Cells. **2019**, 11, 29094-29104	22
1380	Rhodanine-based nonfullerene acceptors for organic solar cells. **2019**, 62, 1574-1596	13

1379	Even–Odd Alkyl Chain-Length Alternation Regulates Oligothiophene Crystal Structure. **2019**, 31, 6900-6907	12
1378	Structural engineering of pyrrolo[3,4-f]benzotriazole-5,7(2H,6H)-dione-based polymers for non-fullerene organic solar cells with an efficiency over 12%. **2019**, 7, 19522-19530	6
1377	Efficient Interface Engineering Enhances Photovoltaic Performance of a Bulk-Heterojunction PCDTBT:PC71BM System. **2019**, 9, 1258-1265	5
1376	Asymmetric A–DA′D–A-type nonfullerene small molecule acceptors for efficient organic solar cells. **2019**, 7, 19348-19354	22
1375	Residual solvent additive enables the nanostructuring of PTB7-Th:PC71BM solar cells via soft lithography. **2019**, 9, 065024	1
1374	Boosting Organic–Metal Oxide Heterojunction via Conjugated Small Molecules for Efficient and Stable Nonfullerene Polymer Solar Cells. **2019**, 9, 1900887	30
1373	Morphology optimization via molecular weight tuning of donor polymer enables all-polymer solar cells with simultaneously improved performance and stability. **2019**, 64, 103931	55
1372	Simple and Versatile Non-Fullerene Acceptor Based on Benzothiadiazole and Rhodanine for Organic Solar Cells. **2019**, 11, 30098-30107	14
1371	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
1370	Sulfonyl-based non-fullerene electron acceptor-assisted grain boundary passivation for efficient and stable perovskite solar cells. **2019**, 7, 19881-19888	17
1369	Noncovalent Close Contacts in Fluorinated Thiophene–Phenylene–Thiophene Conjugated Units: Understanding the Nature and Dominance of O···H versus S···F and O···F Interactions with Respect to the Control of Polymer Conformation. **2019**, 31, 7070-7079	12
1368	A series of V-shaped small molecule non-fullerene electron acceptors for efficient bulk-heterojunction devices. **2019**, 171, 107677	12
1367	Photovoltage loss in semi-transparent organic photovoltaic devices. **2019**, 74, 37-40	6
1366	A Comparative Study on Hole Transfer Inversely Correlated with Driving Force in Two Non-Fullerene Organic Solar Cells. **2019**, 10, 4110-4116	16
1365	The synergy of host–guest nonfullerene acceptors enables 16%-efficiency polymer solar cells with increased open-circuit voltage and fill-factor. **2019**, 6, 2094-2102	64
1364	Alkylthiazole-based semicrystalline polymer donors for fullerene-free organic solar cells. **2019**, 10, 4314-4321	10
1363	Forced coplanarity of dithienofluorene-based non-fullerene acceptors to achieve high-efficiency organic solar cells. **2019**, 7, 17947-17953	11
1362	Photogeneration of Charge Carriers in Solution-Processable Organic Semiconductors. **2019**, 259-308	

1361	Importance of Side-Chains on Molecular Characteristics of Interacting Organic Molecules. **2019**, 4, 10396-10404	
1360	Side-chain engineering of wide-bandgap polymers based on benzo[1,2-b:4,5-b?]dithiophene and [2,2?-bithiophene]-4,4?-dicarboxylate for fullerene-free organic solar cells. **2019**, 7, 9581-9590	6
1359	Chlorination Strategy-Induced Abnormal Nanomorphology Tuning in High-Efficiency Organic Solar Cells: A Study of Phenyl-Substituted Benzodithiophene-Based Nonfullerene Acceptors. **2019**, 3, 1900262	15
1358	Effect of Solvent Additives on the Morphology and Device Performance of Printed Nonfullerene Acceptor Based Organic Solar Cells. **2019**, 11, 42313-42321	30
1357	Improving Performance of Nonfullerene Organic Solar Cells over 13% by Employing Silver Nanowires-Doped PEDOT:PSS Composite Interface. **2019**, 11, 42447-42454	16
1356	17% Efficient Organic Solar Cells Based on Liquid Exfoliated WS as a Replacement for PEDOT:PSS. **2019**, 31, e1902965	384
1355	Are Transport Models Able To Predict Charge Carrier Mobilities in Organic Semiconductors?. **2019**, 123, 29499-29512	11
1354	Nonfullerene organic photovoltaic cells exhibiting 13.76% efficiency by employing upside-down solvent vapor annealing. **2019**, 43, 8716	0
1353	Thieno[2,3-f]benzofuran based donor-acceptor polymer for fullerene-free solar cells. **2019**, 120, 109205	3
1352	Using Chlorine Atoms to Fine-Tune the Intermolecular Packing and Energy Levels of Efficient Nonfullerene Acceptors. **2019**, 2, 7663-7669	9
1351	5H-Fluoreno [3,2- b:6,7- b]Dithiophene Based Non-fullerene Small Molecular Acceptors for Polymer Solar Cell Application. **2019**, 34, 1220-1227	1
1350	Advance in photonic crystal solar cells. **2019**, 116, 109436	59
1349	Modulation of Building Block Size in Conjugated Polymers with DA Structure for Polymer Solar Cells. **2019**, 52, 7929-7938	6
1348	Push-pull molecules bearing a hydrazonocyclopentadiene acceptor moiety: from the synthesis to organic photovoltaic applications. **2019**, 29, 304-306	7
1347	Efficiency above 12% for 1 cm Flexible Organic Solar Cells with Ag/Cu Grid Transparent Conducting Electrode. **2019**, 6, 1901490	34
1346	Decoding Charge Recombination through Charge Generation in Organic Solar Cells. **2019**, 3, 1900184	29
1345	A wide bandgap conjugated polymer donor based on alkoxyl-fluorophenyl substituted benzodithiophene for high performance non-fullerene polymer solar cells. **2019**, 7, 1307-1314	17
1344	Perylene diimide based star-shaped small molecular acceptors for high efficiency organic solar cells. **2019**, 7, 819-825	23

1343	Sequentially Deposited versus Conventional Nonfullerene Organic Solar Cells: Interfacial Trap States, Vertical Stratification, and Exciton Dissociation. **2019**, 9, 1902145		22
1342	Rational Tuning of Molecular Interaction and Energy Level Alignment Enables High-Performance Organic Photovoltaics. **2019**, 31, e1904215		108
1341	Quantum-Chemical Evaluation of Impact of Chlorination versus Fluorination on the Electronic Properties of Donors and Acceptors for Organic Solar Cells. **2019**, 2, 1900136		8
1340	New Antimony-Based Organic-Inorganic Hybrid Material as Electron Extraction Layer for Efficient and Stable Polymer Solar Cells. **2019**, 11, 44820-44828		2
1339	Enhancing phase separation with a conformation-locked nonfullerene acceptor for over 14.4% efficiency solar cells. **2019**, 7, 13279-13286		17
1338	Design of parallel-connected polymer tandem solar cells using efficient low bandgap PTB7-Th:PC71BM blend. **2019**, 125, 1		0
1337	Enhancing the Performance of a Fused-Ring Electron Acceptor by Unidirectional Extension. *Journal of the American Chemical Society*, **2019**, 141, 19023-19031	16.4	102
1336	Toward Scalable PbS Quantum Dot Solar Cells Using a Tailored Polymeric Hole Conductor. **2019**, 4, 2850-2858		41
1335	Molecular Engineering on Bis(benzothiophene-,-dioxide)-Based Large-Band Gap Polymers for Interfacial Modifications in Polymer Solar Cells. **2019**, 11, 45969-45978		9
1334	Revealing Hidden UV Instabilities in Organic Solar Cells by Correlating Device and Material Stability. **2019**, 9, 1902124		39
1333	Concurrent Optimization of Organic Donor–Acceptor Pairs through Machine Learning. **2019**, 9, 1902463		35
1332	High Performance Thick-Film Nonfullerene Organic Solar Cells with Efficiency over 10% and Active Layer Thickness of 600 nm. **2019**, 9, 1902688		49
1331	Additive-Free Non-Fullerene Organic Solar Cells. **2019**, 6, 5547-5562		8
1330	Recent advances in molecular design of functional conjugated polymers for high-performance polymer solar cells. **2019**, 99, 101175		83
1329	Efficient non-fullerene polymer solar cells enabled by side-chain conjugated thieno[3,4-c]pyrrole-4,6-dione-based polymer and small molecular acceptors. **2019**, 145, 104378		3
1328	Selective Adsorption of C in the Supramolecular Nanopatterns of Donor-Acceptor Porphyrin Derivatives. **2019**, 35, 14511-14516		5
1327	Use of the Phen-NaDPO:Sn(SCN)2 Blend as Electron Transport Layer Results to Consistent Efficiency Improvements in Organic and Hybrid Perovskite Solar Cells. **2019**, 29, 1905810		30
1326	Perylene Diimide-Based Nonfullerene Polymer Solar Cells with over 11% Efficiency Fabricated by Smart Molecular Design and Supramolecular Morphology Optimization. **2019**, 29, 1906587		42

1325	Carbon Dots in a Matrix: Energy-Transfer-Enhanced Room-Temperature Red Phosphorescence. **2019**, 58, 18443-18448	66
1324	Ambient Processable and Stable All-Polymer Organic Solar Cells. **2019**, 29, 1806747	77
1323	Photonic enhancement of parallel homo-tandem solar cells through the central electrode. **2019**, 193, 73-79	6
1322	Atomistic simulations of bulk heterojunctions to evaluate the structural and packing properties of new predicted donors in OPVs. **2019**, 21, 20315-20326	6
1321	Aggregation-Induced Multilength Scaled Morphology Enabling 11.76% Efficiency in All-Polymer Solar Cells Using Printing Fabrication. **2019**, 31, e1902899	183
1320	Synthesis of a Hominal Bis(difluoromethyl) Fragment. **2019**, 4, 14140-14150	3
1319	Intense Pulsed Light Sintered Core-Shell Nanoparticles for Organic Photovoltaic Devices. **2019**, 27, 1167-1172	1
1318	A Wide-Band Gap Copolymer Donor for Efficient Fullerene-Free Solar Cells. **2019**, 4, 14800-14804	3
1317	Dialkoxymethano[60]fullerenes as electron acceptors in thin-film organic solar cells. **2019**, 75, 130514	3
1316	Ultra-narrow bandgap non-fullerene acceptors for organic solar cells with low energy loss. **2019**, 3, 2157-2163	16
1315	Generic Analytical Models for Organic and Perovskite Solar Cells. **2019**,	3
1314	Impact of P3HT materials properties and layer architecture on OPV device stability. **2019**, 202, 110151	10
1313	Effect of fluorination of the donor unit on the properties of benzodithiophene-triazole based donor-acceptor systems for polymer solar cells: A computational investigation. **2019**, 1165, 112564	2
1312	Facile one-pot polymerization of a fully conjugated donor–acceptor block copolymer and its application in efficient single component polymer solar cells. **2019**, 7, 21280-21289	23
1311	Charge-transfer electronic states in organic solar cells. **2019**, 4, 689-707	140
1310	Impact of end groups on the performance of non-fullerene acceptors for organic solar cell applications. **2019**, 7, 22701-22729	54
1309	Nonacyclic carbazole-based non-fullerene acceptors enable over 12% efficiency with enhanced stability for organic solar cells. **2019**, 7, 21903-21910	21
1308	In Search of a Green Process: Polymeric Films with Ordered Arrays via a Water Droplet Technique. **2019**, 11,	0

1307	A Nanoscopic View of Photoinduced Charge Transfer in Organic Nanocrystalline Heterojunctions. **2019**, 123, 25031-25041	0
1306	Intrinsic photo-degradation and mechanism of polymer solar cells: the crucial role of non-fullerene acceptors. **2019**, 7, 25830-25837	55
1305	Molecular origin of efficient hole transfer from non-fullerene acceptors: insights from first-principles calculations. **2019**, 7, 12180-12193	17
1304	Revealing the Critical Role of the HOMO Alignment on Maximizing Current Extraction and Suppressing Energy Loss in Organic Solar Cells. **2019**, 19, 883-893	42
1303	Side Chain and Solvent Direction of Film Morphology in Small-Molecule Organic Solar Materials. **2019**, 31, 8308-8319	8
1302	Interfacial width and phase equilibrium in polymer-fullerene thin-films. **2019**, 2,	5
1301	Designing difluoro substituted benzene ring based fullerene free acceptors for small Naphthalene Di-Imide based molecules with DFT approaches. **2019**, 51, 1	9
1300	Influence of Acceptor Type and Polymer Molecular Weight on the Mechanical Properties of Polymer Solar Cells. **2019**, 31, 9057-9069	63
1299	Solution-Processed PEDOT:PSS/MoS Nanocomposites as Efficient Hole-Transporting Layers for Organic Solar Cells. **2019**, 9,	11
1298	A Trialkylsilylthienyl Chain-Substituted Small-Molecule Acceptor with Higher LUMO Level and Reduced Band Gap for Over 16% Efficiency Fullerene-Free Ternary Solar Cells. **2019**, 31, 8908-8917	41
1297	How Does Polymorphism Affect the Interfacial Charge-Transfer States in Organic Photovoltaics?. **2019**, 123, 25585-25595	1
1296	Wide band-gap organic molecules containing benzodithiophene and difluoroquinoxaline derivatives for solar cell applications. **2019**, 685, 29-39	1
1295	Low-Band-Gap Polymer-Based Infrared-to-Visible Upconversion Organic Light-Emitting Diodes with Infrared Sensitivity up to 1.1 Ɛh. **2019**, 6, 2368-2374	9
1294	Bromination of the Small-Molecule Acceptor with Fixed Position for High-Performance Solar Cells. **2019**, 31, 8044-8051	40
1293	Efficient polycrystalline silicon solar cells with double metal oxide layers. **2019**, 48, 3687-3694	3
1292	A generic green solvent concept boosting the power conversion efficiency of all-polymer solar cells to 11%. **2019**, 12, 157-163	219
1291	Nano-crater morphology in hybrid electron-collecting buffer layers for high efficiency polymer:nonfullerene solar cells with enhanced stability. **2019**, 4, 464-471	12
1290	Systematically investigating the influence of inserting alkylthiophene spacers on the aggregation, photo-stability and optoelectronic properties of copolymers from dithieno[2,3-d:2?,3?-d?]benzo[1,2-b:4,5-b?]dithiophene and benzothiadiazole derivatives. **2019**, 10, 972-982	8

1289	Enhanced intramolecular charge transfer of unfused electron acceptors for efficient organic solar cells. **2019**, 3, 513-519	37
1288	Triplet excitons: improving exciton diffusion length for enhanced organic photovoltaics. **2019**, 7, 2445-2463	32
1287	Towards improved efficiency of polymer solar cells via chlorination of a benzo[1,2-b:4,5-b?]dithiophene based polymer donor. **2019**, 7, 2261-2267	14
1286	A novel polymer donor based on dithieno[2,3-d:2?,3?-d??]benzo[1,2-b:4,5-b?]dithiophene for highly efficient polymer solar cells. **2019**, 7, 2646-2652	23
1285	Enhancing photovoltaic performance by tuning the domain sizes of a small-molecule acceptor by side-chain-engineered polymer donors. **2019**, 7, 3072-3082	46
1284	Energy level-modulated non-fullerene small molecule acceptors for improved VOC and efficiency of inverted perovskite solar cells. **2019**, 7, 3336-3343	21
1283	Separating Crystallization Process of P3HT and O-IDTBR to Construct Highly Crystalline Interpenetrating Network with Optimized Vertical Phase Separation. **2019**, 29, 1807591	54
1282	Designing Alternative Non-Fullerene Molecular Electron Acceptors for Solution-Processable Organic Photovoltaics. **2019**, 19, 1078-1092	8
1281	Enhanced intermolecular interactions to improve twisted polymer photovoltaic performance. **2019**, 62, 370-377	24
1280	Low-Energy-Loss Polymer Solar Cells with 14.52% Efficiency Enabled by Wide-Band-Gap Copolymers. **2019**, 12, 1-12	51
1279	Panchromatic Ternary Organic Solar Cells with Porphyrin Dimers and Absorption-Complementary Benzodithiophene-based Small Molecules. **2019**, 11, 6283-6291	34
1278	Combination of noncovalent conformational locks and side chain engineering to tune the crystallinity of nonfullerene acceptors for high-performance P3HT based organic solar cells. **2019**, 3, 64-69	18
1277	Quaternary polymer solar cells with over 13% efficiency enabled by improving film-morphologies via binary mixed fullerene additive. **2019**, 3, 301-307	10
1276	12.88% efficiency in doctor-blade coated organic solar cells through optimizing the surface morphology of a ZnO cathode buffer layer. **2019**, 7, 212-220	53
1275	Green solvent-processed efficient non-fullerene organic solar cells enabled by low-bandgap copolymer donors with EDOT side chains. **2019**, 7, 716-726	31
1274	NIR absorbing ortho-Extended perylene bisimide as a promising material for bulk heterojunction organic solar cells. **2019**, 7, 3012-3017	1
1273	Exquisite modulation of ZnO nanoparticle electron transporting layer for high-performance fullerene-free organic solar cell with inverted structure. **2019**, 7, 3570-3576	38
1272	Fine Optimization of Morphology Evolution Kinetics with Binary Additives for Efficient Non-Fullerene Organic Solar Cells. **2019**, 6, 1801560	22

1271	15% Efficiency Tandem Organic Solar Cell Based on a Novel Highly Efficient Wide-Bandgap Nonfullerene Acceptor with Low Energy Loss. **2019**, 9, 1803657		120
1270	Progress in non-fullerene acceptor based organic solar cells. **2019**, 193, 22-65		57
1269	Highly Efficient Fullerene-Free Organic Solar Cells Operate at Near Zero Highest Occupied Molecular Orbital Offsets. *Journal of the American Chemical Society*, **2019**, 141, 3073-3082	16.4	251
1268	Star-shaped magnesium tetraethynylporphyrin bearing four peripheral electron-accepting diketopyrrolopyrrole functionalities for organic solar cells. **2019**, 7, 4072-4083		17
1267	Effects of various donor:acceptor blend ratios on photophysical properties in non-fullerene organic bulk heterojunctions. **2019**, 30, 995-999		10
1266	Synthesis of quinoxaline-based polymers with multiple electron-withdrawing groups for polymer solar cells. **2019**, 73, 192-197		18
1265	Enhanced JSC of P3HT-based non-fullerene polymer solar cells by modulating aggregation effect of P3HT in solution state. **2019**, 68, 15-21		12
1264	Designing indacenodithiophene based non-fullerene acceptors with a donor-acceptor combined bridge for organic solar cells.. **2019**, 9, 3605-3617		40
1263	A Terminally Tetrafluorinated Nonfullerene Acceptor for Well-Performing Alloy Ternary Solar Cells. **2019**, 29, 1805872		56
1262	New Benzo[1,2-d:4,5-d?]bis([1,2,3]thiadiazole) (iso-BBT)-Based Polymers for Application in Transistors and Solar Cells. **2019**, 31, 6519-6529		14
1261	Lithium Doping of ZnO for High Efficiency and Stability Fullerene and Non-fullerene Organic Solar Cells. **2019**, 2, 1663-1675		30
1260	Simplified synthetic routes for low cost and high photovoltaic performance n-type organic semiconductor acceptors. **2019**, 10, 519		153
1259	Design of organic small molecules for photovoltaic application with high open-circuit voltage (Voc). **2019**, 7, 2487-2521		41
1258	Magnetic Field Modulation of Recombination Processes in Organic Photovoltaics. **2019**, 9, 460-463		5
1257	The effect of alkylthio substituents on the photovoltaic properties of conjugated polymers. **2019**, 68, 50-55		5
1256	Isomerization of Perylene Diimide Based Acceptors Enabling High-Performance Nonfullerene Organic Solar Cells with Excellent Fill Factor. **2019**, 6, 1802065		56
1255	Fluorination Effects on Indacenodithienothiophene Acceptor Packing and Electronic Structure, End-Group Redistribution, and Solar Cell Photovoltaic Response. *Journal of the American Chemical Society*, **2019**, 141, 3274-3287	16.4	226
1254	Tweaking the Molecular Geometry of a Tetraperylenediimide Acceptor. **2019**, 11, 6970-6977		15

1253	Ternary organic solar cells based on two compatible PDI-based acceptors with an enhanced power conversion efficiency. **2019**, 7, 3552-3557	44
1252	Morphological optimization by rational matching of the donor and acceptor boosts the efficiency of alkylsilyl fused ring-based polymer solar cells. **2019**, 7, 4847-4854	9
1251	Near-IR Absorbing D-A-D Zn-Porphyrin-Based Small-Molecule Donors for Organic Solar Cells with Low-Voltage Loss. **2019**, 11, 7216-7225	20
1250	Optical Absorption Modeling of Plasmonic Organic Solar Cells Embedding Ag□SiO2 Core□Shell Nanoparticles. **2019**, 265-282	2
1249	Improving the performance of inverted polymer solar cells through modification of compact TiO2 layer by different boronic acid functionalized self-assembled monolayers. **2019**, 479, 177-184	15
1248	Vacuum-assisted annealing method for high efficiency printable large-area polymer solar cell modules. **2019**, 7, 3206-3211	18
1247	Spirobifluorene based small molecules as an alternative to traditional fullerene acceptors for organic solar cells. **2019**, 94, 97-106	26
1246	Enhancing device performance of inverted organic solar cells with SnO2/Cs2CO3 as dual electron transport layers. **2019**, 68, 85-95	23
1245	Achieving Balanced Charge Transport and Favorable Blend Morphology in Non-Fullerene Solar Cells via Acceptor End Group Modification. **2019**, 31, 1752-1760	36
1244	Functionalizing benzothiadiazole with non-conjugating ester groups as side chains in a donor□cceptor polymer improves solar cell performance. **2019**, 43, 4242-4252	3
1243	A new dialkylthio-substituted naphtho[2,3-c]thiophene-4,9-dione based polymer donor for high-performance polymer solar cells. **2019**, 12, 675-683	61
1242	Non-fullerene organic solar cells based on a small molecule with benzo[1,2-c:4,5-c']dithiophene-4,8-dione as □bridge. **2019**, 67, 175-180	7
1241	Outdoor Stability of Chloro(Chloro)nBoron Subnaphthalocyanine and ChloroBoron Subphthalocyanine as Electron Acceptors in Bilayer and Trilayer Organic Photovoltaics. **2019**, 2, 979-986	9
1240	Low boiling point solvent additives enable vacuum drying-free processed 230 nm thick PTB7-Th:PC71BM active layers with more than 10% power conversion efficiency. **2019**, 7, 1861-1869	9
1239	High-performance inverted polymer solar cells without an electron extraction layer via a one-step coating of cathode buffer and active layer. **2019**, 7, 1429-1434	15
1238	Multifunctional bipyramid-Au@ZnO core□hell nanoparticles as a cathode buffer layer for efficient non-fullerene inverted polymer solar cells with improved near-infrared photoresponse. **2019**, 7, 2667-2676	18
1237	Nonhalogen solvent-processed polymer solar cells based on chlorine and trialkylsilyl substituted conjugated polymers achieve 12.8% efficiency. **2019**, 7, 2351-2359	61
1236	Bendable and foldable flexible organic solar cells based on Ag nanowire films with 10.30% efficiency. **2019**, 7, 3737-3744	35

1235	A small molecule donor containing a non-fused ring core for all-small-molecule organic solar cells with high efficiency over 11%. **2019**, 7, 3682-3690	27
1234	Highly efficient near-infrared and semitransparent polymer solar cells based on an ultra-narrow bandgap nonfullerene acceptor. **2019**, 7, 3745-3751	70
1233	Constructing a donor□cceptor linear-conjugation structure for heterologous perylene diimides to greatly improve the photovoltaic performance. **2019**, 7, 835-842	15
1232	Influence of backbone modification of difluoroquinoxaline-based copolymers on the interchain packing, blend morphology and photovoltaic properties of nonfullerene organic solar cells. **2019**, 7, 1681-1689	18
1231	Effects of interlayer properties on the performance of tandem organic solar cells with low and high band gap polymers. **2019**, 34, 2407-2415	5
1230	Phase Diagrams of Binary Low Bandgap Conjugated Polymer Solutions and Blends. **2019**, 52, 4317-4328	16
1229	Competition between singlet fission and singlet exciton dissociation at the interface in TIPS-pentacene:IT-4F blend. **2019**, 71, 296-302	6
1228	Chlorinated Thiophene End Groups for Highly Crystalline Alkylated Non-Fullerene Acceptors toward Efficient Organic Solar Cells. **2019**, 31, 6672-6676	32
1227	Single-molecule conductance investigation of BDT derivatives: an additional pattern found to induce through-space channels beyond □stacking. **2019**, 55, 8325-8328	8
1226	Quad-rotor-shaped non-fullerene electron acceptor materials with potential to enhance the photoelectric performance of organic solar cells. **2019**, 7, 18150-18157	9
1225	Optimal power generation using dark states in dimers strongly coupled to their environment. **2019**, 21, 063025	8
1224	Polymer nanocomposites for solar cells: research trends and perspectives. **2019**, 557-600	1
1223	Synthesis of 2,2?-[2,2?-(arenediyl)bis(anthra[2,3-b]thiophene-5,10-diylidene)]tetrapropanedinitriles and their performance as non-fullerene acceptors in organic photovoltaics. **2019**, 255, 116097	5
1222	Oligothiophene Synthesis by a General C-H Activation Mechanism: Concerted Metalation-Deprotonation (CMD). **2019**, 9, 6821-6836	67
1221	Recent Advances of Organic Solar Cells with Optical Microcavities. **2019**, 3, 1900181	14
1220	Synergistic Effects of Side-Chain Engineering and Fluorination on Small Molecule Acceptors to Simultaneously Broaden Spectral Response and Minimize Voltage Loss for 13.8% Efficiency Organic Solar Cells. **2019**, 3, 1900169	19
1219	Influences of Non-fullerene Acceptor Fluorination on Three-Dimensional Morphology and Photovoltaic Properties of Organic Solar Cells. **2019**, 11, 26194-26203	33
1218	From fullerene acceptors to non-fullerene acceptors: prospects and challenges in the stability of organic solar cells. **2019**, 7, 23361-23377	105

1217	Recent Advances, Design Guidelines, and Prospects of All-Polymer Solar Cells. **2019**, 119, 8028-8086	367
1216	A comprehensive review on the reasons behind low power conversion efficiency of dibenzo derivatives based donors in bulk heterojunction organic solar cells. **2019**, 73, 182-204	18
1215	Efficient photovoltaic performances and enhanced dielectric constants enabled by a fluorinated quinoxaline-based polymer with non-fullerene acceptors. **2019**, 73, 109-114	1
1214	Over 16% efficiency organic photovoltaic cells enabled by a chlorinated acceptor with increased open-circuit voltages. **2019**, 10, 2515	1093
1213	End Group Tuning in AcceptorDonorAcceptor Nonfullerene Small Molecules for High Fill Factor Organic Solar Cells. **2019**, 29, 1808429	33
1212	Temperature-Dependent Aggregation Donor Polymers Enable Highly Efficient Sequentially Processed Organic Photovoltaics Without the Need of Orthogonal Solvents. **2019**, 29, 1902478	23
1211	Carboxylate-Substituted Polythiophenes for Efficient Fullerene-Free Polymer Solar Cells: The Effect of Chlorination on Their Properties. **2019**, 52, 4464-4474	50
1210	Fluoro-Modulated Molecular Geometry in Diketopyrrolopyrrole-Based Low-Bandgap Copolymers for Tuning the Photovoltaic Performance. **2019**, 7, 333	3
1209	Strategic end-halogenation of conjugated small molecules enabling fine morphological control and enhanced performance of organic solar cells. **2019**, 7, 14806-14815	14
1208	A Protocol for Fast Prediction of Electronic and Optical Properties of Donor-Acceptor Polymers Using Density Functional Theory and the Tight-Binding Method. **2019**, 123, 4980-4989	9
1207	Organic/Inorganic Hybrid p-Type Semiconductor Doping Affords Hole Transporting Layer Free Thin-Film Perovskite Solar Cells with High Stability. **2019**, 11, 22603-22611	22
1206	Synthesis and Optoelectronic Properties of New Methoxy-Substituted Diketopyrrolopyrrole Polymers. **2019**, 4, 9427-9433	6
1205	Solution-Processed Semitransparent Organic Photovoltaics: From Molecular Design to Device Performance. **2019**, 31, e1900904	117
1204	Regulating the morphology of fluorinated non-fullerene acceptor and polymer donor via binary solvent mixture for high efficiency polymer solar cells. **2019**, 62, 1221-1229	23
1203	An effective heteroatom-substituted strategy on photovoltaic properties of D(A-Ar)2 small molecules for efficient organic solar cells. **2019**, 170, 107595	6
1202	New Directions for Organic Thin-Film Solar Cells: Stability and Performance. **2019**, 195-244	1
1201	Recombination between Photogenerated and Electrode-Induced Charges Dominates the Fill Factor Losses in Optimized Organic Solar Cells. **2019**, 10, 3473-3480	17
1200	Development of fullerene free acceptors molecules for organic solar cells: A step way forward toward efficient organic solar cells. **2019**, 1161, 26-38	31

1199	Prediction of Intramolecular Reorganization Energy Using Machine Learning. **2019**, 123, 7855-7863	18
1198	Quantifying and Understanding Voltage Losses Due to Nonradiative Recombination in Bulk Heterojunction Organic Solar Cells with Low Energetic Offsets. **2019**, 9, 1901077	47
1197	Medium-Bandgap (Acceptor?Donor)2Acceptor-Type Small-Molecule Donors Based on an Asymmetric Thieno[3,2-c]isochromene Building Block for Organic Solar Cells with High Efficiency and Voltage. **2019**, 2, 4730-4736	7
1196	A nonfullerene acceptor with a 1000 nm absorption edge enables ternary organic solar cells with improved optical and morphological properties and efficiencies over 15%. **2019**, 12, 2529-2536	188
1195	The comprehensive utilization of the synergistic effect of fullerene and non-fullerene acceptors to achieve highly efficient polymer solar cells. **2019**, 7, 15841-15850	92
1194	Introducing Fluorine and Sulfur Atoms into Quinoxaline-Based p-type Polymers To Gradually Improve the Performance of Fullerene-Free Organic Solar Cells. **2019**, 8, 743-748	65
1193	Effectiveness of Solvent Vapor Annealing over Thermal Annealing on the Photovoltaic Performance of Non-Fullerene Acceptor Based BHJ Solar Cells. **2019**, 9, 8529	23
1192	Bilayer polymer solar cells prepared with transfer printing of active layers from controlled swelling/de-swelling of PDMS. **2019**, 63, 103826	16
1191	Temperature-Modulated Optimization of High-Performance Polymer Solar Cells Based on BenzodithiopheneDifluorodialkylthienylBenzothiadiazole Copolymers: Aggregation Effect. **2019**, 52, 4447-4457	10
1190	Renaissance of Fused Porphyrins: Substituted Methylene-Bridged Thiophene-Fused Strategy for High-Performance Dye-Sensitized Solar Cells. *Journal of the American Chemical Society*, **2019**, 141, 9910-9919 164	125
1189	Short contacts between chains enhancing luminescence quantum yields and carrier mobilities in conjugated copolymers. **2019**, 10, 2614	29
1188	Fullerene-free polymer solar cells enabled with a PhI-based wide band gap donor polymer: promoting efficiencies via acceptor screening and device engineering. **2019**, 7, 8442-8449	3
1187	The interface effect between ZIXLIB crystal surface and C60: Strong charge-transfer (CT) vs weak CT state. **2019**, 730, 266-270	1
1186	Experimental and theoretical study of planar small molecule acceptor for organic solar cells. **2019**, 1196, 169-175	13
1185	Benzothienoisoindigo-based polymers for efficient polymer solar cells with an open-circuit voltage of 0.96 V. **2019**, 175, 339-346	5
1184	Fluorene dimers as the cathode interlayers in organic solar cells. **2019**, 253, 110-115	3
1183	Achieving a High Fill Factor and Stability in Perylene DiimideBased Polymer Solar Cells Using the Molecular Lock Effect between 4,4?-Bipyridine and a Tri(8-hydroxyquinoline)aluminum(III) Core. **2019**, 29, 1902079	22
1182	Miscibility Tuning for Optimizing Phase Separation and Vertical Distribution toward Highly Efficient Organic Solar Cells. **2019**, 6, 1900565	56

1181	A pentacyclic S,N-heteroacene based electron acceptor with strong near-infrared absorption for efficient organic solar cells. **2019**, 55, 7057-7060		14
1180	Enhancing performance of ternary blend photovoltaics by tuning the side chains of two-dimensional conjugated polymer. **2019**, 71, 185-193		17
1179	Influence of the backbone structure of the donor material and device processing conditions on the photovoltaic properties of small molecular BHJSCs. **2019**, 186, 84-93		7
1178	Improved Charge Transport and Reduced Non-Geminate Recombination in Organic Solar Cells by Adding Size-Selected Graphene Oxide Nanosheets. **2019**, 11, 20183-20191		12
1177	Stable Postfullerene Solar Cells via Direct C–H Arylation Polymerization. Morphology–Performance Relationships. **2019**, 31, 4313-4321		24
1176	The crucial role of end group planarity for fused-ring electron acceptors in organic solar cells. **2019**, 3, 1642-1652		9
1175	Design of wide-bandgap polymers with deeper ionization potential enables efficient ternary non-fullerene polymer solar cells with 13% efficiency. **2019**, 7, 14153-14162		21
1174	Visible to Near-Infrared-Absorbing Polymers Containing Bithiazole and 2,3-Didodecyl-6,7-Difluoroquinoxaline Derivatives for Polymer Solar Cells. **2019**, 40, 686-690		1
1173	Effect of structural isomerism in BODIPY based donor-acceptor co-polymers on their photovoltaic performance. **2019**, 186, 215-224		7
1172	Transient Electron Spin Polarization Imaging of Heterogeneous Charge-Separation Geometries at Bulk-Heterojunction Interfaces in Organic Solar Cells. **2019**, 123, 13472-13481		14
1171	Local Excitation/Charge-Transfer Hybridization Simultaneously Promotes Charge Generation and Reduces Nonradiative Voltage Loss in Nonfullerene Organic Solar Cells. **2019**, 10, 2911-2918		52
1170	Carbazole side-chained benzodithiophene based two-dimensional D-A conjugated photovoltaic polymers. **2019**, 170, 107548		7
1169	Naphthalimide end-capped diphenylacetylene: a versatile organic semiconductor for blue light emitting diodes and a donor or an acceptor for solar cells. **2019**, 43, 9243-9254		8
1168	6,7-Di(thiophen-2-yl)naphtho[2,3-c][1,2,5]thiadiazole and 4,6,7,9-tetra (thiophen-2-yl)naphtho[2,3-c][1,2,5]thiadiazole as new acceptor units for D-A type co-polymer for polymer solar cells. **2019**, 252, 113-121		5
1167	Designing of non-fullerene 3D star-shaped acceptors for organic solar cells. **2019**, 25, 129		17
1166	-Alkylation -alkylation: influence on the performance of the photovoltaic cells based on a tetracyclic lactam polymer donor.. **2019**, 9, 12310-12318		2
1165	Additive-free non-fullerene organic solar cells with random copolymers as donors over 9% power conversion efficiency. **2019**, 30, 1161-1167		10
1164	14.7% Efficiency Organic Photovoltaic Cells Enabled by Active Materials with a Large Electrostatic Potential Difference. *Journal of the American Chemical Society*, **2019**, 141, 7743-7750	16.4	244

1163	Cobalt-catalyzed cyclization with the introduction of cyano, acyl and aminoalkyl groups. **2019**, 17, 4783-4788	4
1162	Slot-die printed non-fullerene organic solar cells with the highest efficiency of 12.9% for low-cost PV-driven water splitting. **2019**, 61, 559-566	51
1161	Interaction between the Non-Fullerene Acceptor ITIC and Potassium. **2019**, 4, 8087-8093	0
1160	Impact of Alkyl Side Chains on Optoelectronic and Photovoltaic Properties of Novel Benzodithiophenedione-Based Conjugated Polymers. **2019**, 13, 1900154	2
1159	Evidence for Strong and Weak Phenyl-C61-Butyric Acid Methyl Ester Photodimer Populations in Organic Solar Cells. **2019**, 31, 6076-6083	7
1158	Efficient as-cast semi-transparent organic solar cells with efficiency over 9% and a high average visible transmittance of 27.6. **2019**, 21, 10660-10666	22
1157	Combined effect of ZnO nanoripples and solvent additive on the nanomorphology and performance of PTB7-Th: PCBM organic solar cells. **2019**, 30, 385204	10
1156	P3HT Molecular Weight Determines the Performance of P3HT:O-IDTBR Solar Cells. **2019**, 3, 1900023	21
1155	An efficient, three-dimensional non-fullerene electron acceptor: functionalizing tetraphenylethylene with naphthalene diimides. **2019**, 3, 1231-1237	14
1154	[1,2,5]Thiadiazolo[3,4-]Pyridazine as an Internal Acceptor in the D-A-A Organic Sensitizers for Dye-Sensitized Solar Cells. **2019**, 24,	13
1153	Recent Progress in Molecular Design of Fused Ring Electron Acceptors for Organic Solar Cells. **2019** , 15, e1900134	89
1152	Donor Halogenation Effects on Electronic Structures and Electron Process Rates of Donor/C Heterojunction Interface: A Theoretical Study on F ZnPc (n = 0, 4, 8, 16) and Cl SubPc (n = 0, 6). **2019**, 123, 4034-4047	14
1151	Efficient Polymer Solar Cells Having High Open-Circuit Voltage and Low Energy Loss Enabled by a Main-Chain Twisted Small Molecular Acceptor. **2019**, 11, 16795-16803	22
1150	Molecular Orientation of Polymer Acceptor Dominates Open-Circuit Voltage Losses in All-Polymer Solar Cells. **2019**, 4, 1057-1064	29
1149	Elevated Stability and Efficiency of Solar Cells via Ordered Alloy Co-Acceptors. **2019**, 4, 1106-1114	49
1148	Benzo[1,2-b:4,5-b?]diselenophene-fused nonfullerene acceptors with alternative aromatic ring-based and monochlorinated end groups: a new synergistic strategy to simultaneously achieve highly efficient organic solar cells with the energy loss of 0.49 eV. **2019**, 7, 11802-11813	31
1147	Chlorine Effects of Heterocyclic Ring-Based Donor Polymer for Low-Cost and High-Performance Nonfullerene Polymer Solar Cells. **2019**, 3, 1900094	19
1146	Correlating the electron-donating core structure with morphology and performance of carbon oxygen-bridged ladder-type non-fullerene acceptor based organic solar cells. **2019**, 61, 318-326	32

1145	Ternary Organic Solar Cells with Small Nonradiative Recombination Loss. **2019**, 4, 1196-1203	84
1144	Random Copolymers Outperform Gradient and Block Copolymers in Stabilizing Organic Photovoltaics. **2019**, 29, 1900467	4
1143	Nonfullerene Polymer Solar Cell with Large Active Area of 216 cm2 and High Power Conversion Efficiency of 7.7%. **2019**, 3, 1900071	17
1142	A theoretical exploration on why the replacement of hexyl group by alkoxycarbonyl in P3HT could greatly improve the performance of non-fullerene organic solar cell. **2019**, 100, 160-167	1
1141	Solar Cells Constructed with Polythiophene Thin Films Grown along Tethered Thiophene-Dye Conjugates via Photoelectrochemical Polymerization. **2019**, 11, 18755-18762	11
1140	Efficiency enhancement of organic photovoltaics by introducing high-mobility curved small-molecule semiconductors as additives. **2019**, 7, 12740-12750	5
1139	Non-Fullerene-Derivative-Dependent Dielectric Properties in High-Performance Ternary Organic Solar Cells. **2019**, 9, 1031-1039	11
1138	Synthesis and photovoltaic properties of small molecule electron acceptors with twin spiro-type core structure. **2019**, 168, 197-204	8
1137	The role of surface energy control in organic photovoltaics based on solar paints. **2019**, 7, 9202-9214	13
1136	Ternary blend organic solar cells with improved morphological stability. **2019**, 7, 9698-9707	29
1135	Improved photovoltaic performance of a nonfullerene acceptor based on a benzo[b]thiophene fused end group with extended □conjugation. **2019**, 7, 9822-9830	27
1134	Enhanced □□Interactions of Nonfullerene Acceptors by Volatilizable Solid Additives in Efficient Polymer Solar Cells. **2019**, 31, e1900477	69
1133	Breaking 12% efficiency in flexible organic solar cells by using a composite electrode. **2019**, 62, 851-858	47
1132	An extraordinary cyclohexylmethyl side chain dominating polymeric donor packing patterns and energy levels for efficient non-fullerene polymer solar cells. **2019**, 7, 10505-10513	14
1131	Initial photo-degradation of PCDTBT:PC70BM solar cells studied under various illumination conditions: Role of the hole transport layer. **2019**, 183, 234-239	6
1130	High-performance non-fullerene polymer solar cells based on naphthobistriazole wide bandgap donor copolymers. **2019**, 7, 4709-4715	0
1129	Intramolecular □stacked perylene-diimide acceptors for non-fullerene organic solar cells. **2019**, 7, 8136-8143	22
1128	Enhanced photovoltaic performances via ternary blend strategy employing a medium-bandgap D-A type alternating copolymer as the single donor. **2019**, 183, 350-355	5

1127	Pyran-bridged A-D-A type small molecular acceptors for organic solar cells. **2019**, 183, 463-468		13
1126	Hybridization of Local Exciton and Charge-Transfer States Reduces Nonradiative Voltage Losses in Organic Solar Cells. *Journal of the American Chemical Society*, **2019**, 141, 6362-6374	16.4	188
1125	As-cast ternary polymer solar cells based on a nonfullerene acceptor and its fluorinated counterpart showing improved efficiency and good thickness tolerance. **2019**, 7, 9798-9806		20
1124	High Voc ternary nonfullerene polymer solar cells with improved efficiency and good thermal stability. **2019**, 69, 174-180		9
1123	Efficiency enhancements in non-fullerene acceptor-based organic solar cells by post-additive soaking. **2019**, 7, 8805-8810		11
1122	Achieving high efficiency and low voltage loss simultaneously for non-fullerene organic solar cells. **2019**, 62, 405-406		1
1121	Toward ultra-thin and omnidirectional perovskite solar cells: Concurrent improvement in conversion efficiency by employing light-trapping and recrystallizing treatment. **2019**, 60, 198-204		35
1120	Employing structurally similar acceptors as crystalline modulators to construct high efficiency ternary organic solar cells. **2019**, 7, 7760-7765		49
1119	Simple Bithiophene–Rhodanine-Based Small Molecule Acceptor for Use in Additive-Free Nonfullerene OPVs with Low Energy Loss of 0.51 eV. **2019**, 9, 1804021		45
1118	A High-Performance Non-Fullerene Acceptor Compatible with Polymers with Different Bandgaps for Efficient Organic Solar Cells. **2019**, 3, 1800376		34
1117	Defects Passivation With Dithienobenzodithiophene-based π-Conjugated Polymer for Enhanced Performance of Perovskite Solar Cells. **2019**, 3, 1900029		50
1116	Structural dependence of the optical properties of narrow band gap thiophene–thiadiazoloquinoxaline derivatives and their application in organic photovoltaic cells. **2019**, 43, 5202-5213		8
1115	Asymmetric fused-ring electron acceptor with two distinct terminal groups for efficient organic solar cells. **2019**, 7, 8055-8060		38
1114	Discriminating bulk versus interface shunts in organic solar cells by advanced imaging techniques. **2019**, 27, 460-468		9
1113	Efficient Polymer Solar Cells With High Fill Factor Enabled by A Furo[3,4-c]pyrrole-4,6-dione-Based Copolymer. **2019**, 3, 1900012		14
1112	A ring fused N-annulated PDI non-fullerene acceptor for high open circuit voltage solar cells processed from non-halogenated solvents. **2019**, 250, 55-62		14
1111	Interface modification layers for high-performance inverted organic photovoltaics. **2019**, 69, 20-25		6
1110	Hole delocalization as a driving force for charge pair dissociation in organic photovoltaics. **2019**, 6, 1050-1056		12

1109	Dynamic PCBM:Dimer Population in Solar Cells under Light and Temperature Fluctuations. **2019**, 9, 1803948	6
1108	The impact of fluorination on both donor polymer and non-fullerene acceptor: The more fluorine, the merrier. **2019**, 12, 2400-2405	20
1107	The recent progress of wide bandgap donor polymers towards non-fullerene organic solar cells. **2019**, 30, 809-825	51
1106	Energy level modulation of ITIC derivatives: Effects on the photodegradation of conventional and inverted organic solar cells. **2019**, 69, 255-262	23
1105	Diketopyrrolopyrrole-based conjugated materials for non-fullerene organic solar cells. **2019**, 7, 10174-10199	72
1104	Efficient design and structural modifications for tuning the photoelectric properties of small-molecule acceptors in organic solar cells. **2019**, 43, 6577-6586	7
1103	Aging of low-temperature derived highly flexible nanostructured TiO2/P3HT hybrid films during bending. **2019**, 7, 10805-10814	5
1102	High Operation Stability of Ultraflexible Organic Solar Cells with Ultraviolet-Filtering Substrates. **2019**, 31, e1808033	28
1101	Impact of an electron withdrawing group on the thiophene-fused benzotriazole unit on the photovoltaic performance of the derived polymer solar cells. **2019**, 166, 381-389	7
1100	Regulating Bulk-Heterojunction Molecular Orientations through Surface Free Energy Control of Hole-Transporting Layers for High-Performance Organic Solar Cells. **2019**, 31, e1806921	53
1099	Key Parameters Requirements for Non-Fullerene-Based Organic Solar Cells with Power Conversion Efficiency >20. **2019**, 6, 1802028	107
1098	Intrinsic measurements of exciton transport in photovoltaic cells. **2019**, 10, 1156	20
1097	Fluorinated heptacyclic carbazole-based ladder-type acceptors with aliphatic side chains for efficient fullerene-free organic solar cells. **2019**, 3, 829-835	17
1096	The story of conducting polymers for plastic electronics. **2019**, 68, 569-571	1
1095	Tuning the dipole moments of nonfullerene acceptors with an asymmetric terminal strategy for highly efficient organic solar cells. **2019**, 7, 8889-8896	53
1094	From binary to quaternary: high-tolerance of multi-acceptors enables development of efficient polymer solar cells. **2019**, 7, 7815-7822	15
1093	Semitransparent fullerene-free polymer solar cell with 44% AVT and 7% efficiency based on a new chlorinated small molecule acceptor. **2019**, 166, 196-202	25
1092	Design and synthesis of acceptor□donor□acceptor small molecule based on caffeine derivative for efficient and stable polymer solar cells. **2019**, 75, 138-147	5

1091	Reduced Energy Loss Enabled by a Chlorinated Thiophene-Fused Ending-Group Small Molecular Acceptor for Efficient Nonfullerene Organic Solar Cells with 13.6% Efficiency. **2019**, 9, 1900041	117
1090	Limitations and Perspectives on Triplet-Material-Based Organic Photovoltaic Devices. **2019**, 31, e1900690	31
1089	Chlorination strategy on polymer donors toward efficient solar conversions. **2019**, 39, 208-216	26
1088	Solution processed bulk heterojunction organic solar cells using small organic semiconducting materials based on fluorene core unit. **2019**, 91, 425-432	9
1087	Highly Efficient and Stable Solar Cells with Hybrid of Nanostructures and Bulk Heterojunction Organic Semiconductors. **2019**, 2, 1900030	6
1086	Advances in Polymer-Based Photovoltaic Cells: Review of Pioneering Materials, Design, and Device Physics. **2019**, 1055-1101	1
1085	Effects of optical interference and optimized crystallinity in organic photovoltaic cells with a low-bandgap small molecule fabricated by dry process. **2019**, 58, SBBG12	
1084	Increase in efficiency on using selenophene instead of thiophene in -bridges for D--DPP--D organic solar cells. **2019**, 7, 11886-11894	21
1083	Fluorination-modulated end units for high-performance non-fullerene acceptors based organic solar cells. **2019**, 62, 1210-1217	11
1082	A rational comparison of the effects of halogen atoms incorporated into the polymer donors on the performance of polymer solar cells. **2019**, 70, 86-92	10
1081	Deconstructing the behavior of donor-acceptor copolymers in solution & the melt: the case of PTB7. **2019**, 21, 7802-7813	7
1080	Surface modification of ZnO electron transport layers with glycine for efficient inverted non-fullerene polymer solar cells. **2019**, 70, 25-31	23
1079	A Simple Approach to Prepare Chlorinated Polymer Donors with Low-Lying HOMO Level for High Performance Polymer Solar Cells. **2019**, 31, 6558-6567	43
1078	Digital Inkjet Printing of High-Efficiency Large-Area Nonfullerene Organic Solar Cells. **2019**, 4, 1900040	47
1077	An Operando Study on the Photostability of Nonfullerene Organic Solar Cells. **2019**, 3, 1900077	40
1076	Organic Solar Cells Based on High Hole Mobility Conjugated Polymer and Nonfullerene Acceptor with Comparable Bandgaps and Suitable Energy Level Offsets Showing Significant Suppression of Jsc Voc Trade-Off. **2019**, 3, 1900079	20
1075	Photocatalytic effect of ZnO on the stability of nonfullerene acceptors and its mitigation by SnO2 for nonfullerene organic solar cells. **2019**, 6, 1438-1443	80
1074	Designation and Match of Non-Fullerene Acceptors with X-Shaped Donors toward Organic Solar Cells. **2019**, 4, 3654-3664	8

1073	Semiconductive Polymer-Doped PEDOT with High Work Function, Conductivity, Reversible Dispersion, and Application in Organic Solar Cells. **2019**, 7, 8206-8214	15
1072	Dithienocyclopentadibenzothiophene: a C2v-symmetric core for nonfullerene acceptors with tunable bandgaps. **2019**, 7, 9609-9617	11
1071	An easily available near-infrared absorbing non-fullerene photovoltaic electron acceptor with indeno[1,2-b]indole as the central core. **2019**, 166, 467-472	6
1070	Spin-Dependent Electron□Hole Recombination and Dissociation in Nonfullerene Acceptor ITIC-Based Organic Photovoltaic Systems. **2019**, 3, 1900063	12
1069	Towards the Organic Double Heterojunction Solar Cell. **2019**, 19, 1131-1141	4
1068	Fluorination-substitution effect on all-small-molecule organic solar cells. **2019**, 62, 837-844	26
1067	Fluorination effects of A-D-A small molecule donors based benzotriazole for organic solar cells. **2019**, 251, 95-103	8
1066	Interface bonding engineering of a transparent conductive electrode towards highly efficient and mechanically flexible ITO-free organic solar cells. **2019**, 7, 11460-11467	26
1065	All-polymer solar cells based on photostable bis(perylene diimide) acceptor polymers. **2019**, 196, 178-184	7
1064	Twist and Degrade□Impact of Molecular Structure on the Photostability of Nonfullerene Acceptors and Their Photovoltaic Blends. **2019**, 9, 1803755	62
1063	Effects of Fluorination on Exciton Binding Energy and Charge Transport of □Conjugated Donor Polymers and the ITIC Molecular Acceptor: A Theoretical Study. **2019**, 123, 6395-6406	24
1062	Applying Heteroatom Substitution in Organic Photovoltaics. **2019**, 19, 1113-1122	6
1061	Terminal Modulation in Search of a Balance between Hole Transport and Electron Transfer at the Interface for BODIPY-Based Organic Solar Cells. **2019**, 123, 6407-6415	9
1060	Nanoscale 3D characterisation of soft organic material using conductive scanning probe tomography. **2019**, 9, 025105	3
1059	All-Day Operating Quaternary Blend Organic Photovoltaics. **2019**, 29, 1900154	31
1058	Influence of Backbone Chlorination on the Electronic Properties of Diketopyrrolopyrrole (DPP)-Based Dimers. **2019**, 14, 1050-1058	6
1057	A conjugated polymer based on alkylthio-substituted benzo[1,2-c:4,5-c□]dithiophene-4,8-dione acceptor for polymer solar cells. **2019**, 165, 335-340	12
1056	Raman Analysis of Graphene/PANI Nanocomposites for Photovoltaic. **2019**, 158-163	

1055	Organic photovoltaics (OPVs): Device physics. **2019**, 665-693	6
1054	Synthesis and photovoltaic investigation of dithieno[2,3-d:2?,3?-d?]-benzo[1,2-b:3,4-b?:5,6-d?]trithiophene-based conjugated polymer with an enlarged □conjugated system. **2019**, 30, 1290-1302	0
1053	New Anthracene-Fused Nonfullerene Acceptors for High-Efficiency Organic Solar Cells: Energy Level Modulations Enabling Match of Donor and Acceptor. **2019**, 9, 1803541	85
1052	A review of non-fullerene polymer solar cells: from device physics to morphology control. **2019**, 82, 036601	127
1051	Multiple Fused Ring-Based Near-Infrared Nonfullerene Acceptors with an Interpenetrated Charge-Transfer Network. **2019**, 31, 1664-1671	53
1050	Oxygen-Induced Doping as a Degradation Mechanism in Highly Efficient Organic Solar Cells. **2019**, 2, 1943-1950	18
1049	Elaboration of PCBM Coated P3HT Nanoparticles: Understanding the Shell Formation. **2019**, 6,	4
1048	Ternary Blend Strategy for Achieving High-Efficiency Organic Photovoltaic Devices for Indoor Applications. **2019**, 25, 6154-6161	26
1047	High-Efficiency Polymer Solar Cells Over 13.9% With a High VOC Beyond 1.0 V by Synergistic Effect of Fluorine and Sulfur. **2019**, 3, 1900005	42
1046	Fused Heptacyclic-Based Acceptor□Donor□Acceptor Small Molecules: N-Substitution toward High-Performance Solution-Processable Field-Effect Transistors. **2019**, 31, 2027-2035	25
1045	Polymer Side-Chain Variation Induces Microstructural Disparity in Nonfullerene Solar Cells. **2019**, 31, 6568-6577	35
1044	Manipulate Micrometer Surface and Nanometer Bulk Phase Separation Structures in the Active Layer of Organic Solar Cells via Synergy of Ultrasonic and High-Pressure Gas Spraying. **2019**, 11, 10777-10784	14
1043	Passivation of Grain Boundary by Squaraine Zwitterions for Defect Passivation and Efficient Perovskite Solar Cells. **2019**, 11, 10012-10020	49
1042	Enhanced Photovoltaic Performance in D-□A Copolymers Containing Triisopropylsilylethynyl-Substituted Dithienobenzodithiophene by Modulating the Electron-Deficient Units. **2018**, 11,	19
1041	Asymmetric Wide-Bandgap Polymers Simultaneously Improve the Open-Circuit Voltage and Short-Circuit Current for Organic Photovoltaics. **2019**, 40, e1800906	20
1040	Morphology of organic photovoltaic non-fullerene acceptors investigated by grazing incidence X-ray scattering techniques. **2019**, 5, 100030	58
1039	Dihydropyreno[1,2-b:6,7-b?]dithiophene based electron acceptors for high efficiency as-cast organic solar cells. **2019**, 7, 5943-5948	16
1038	Semitransparent polymer solar cells with 9.06% efficiency and 27.1% average visible transmittance obtained by employing a smart strategy. **2019**, 7, 7025-7032	74

1037	Polymer Solar Cells-Interfacial Processes Related to Performance Issues. **2019**, 7, 61	40
1036	Carrier Dynamics and Morphology Regulated by 1,8-Diiodooctane in Chlorinated Nonfullerene Polymer Solar Cells. **2019**, 10, 936-942	12
1035	Understanding the pH-dependent behaviour of graphene oxide aqueous solutions on organic photovoltaic performance. **2019**, 194, 62-66	4
1034	Photovoltaic Solar Energy: Is It Applicable in Brazil? A Review Applied to Brazilian Case. **2019**, 66, 99-120	0
1033	Development of an Electron-Transporting Conjugated Polymer Containing Fluorine-substituted Naphthobisthiadiazole. **2019**, 32, 721-725	1
1032	Comparative study of PTB7:PC71BM based polymer solar cells fabricated under different working environments. **2019**, 1	4
1031	Acceptor Gradient Polymer Donors for Non-Fullerene Organic Solar Cells. **2019**, 31, 9729-9741	10
1030	Tuning of optoelectronic properties of triphenylamines-based donor materials for organic solar cells. **2019**, 18, 1950036	7
1029	A quantum dot-silica composite as an efficient spectral converter in a luminescent down-shifting layer of organic photovoltaic devices. **2019**, 43, 18843-18847	2
1028	Achieving high-performance non-halogenated nonfullerene acceptor-based organic solar cells with 13.7% efficiency via a synergistic strategy of an indacenodithieno[3,2-b]selenophene core unit and non-halogenated thiophene-based terminal group. **2019**, 7, 24389-24399	30
1027	Introducing an identical benzodithiophene donor unit for polymer donors and small-molecule acceptors to unveil the relationship between the molecular structure and photovoltaic performance of non-fullerene organic solar cells. **2019**, 7, 26351-26357	14
1026	Nonfullerene acceptors comprising a naphthalene core for high efficiency organic solar cells.. **2019**, 9, 39163-39169	3
1025	High-performance conjugated polymer donor materials for polymer solar cells with narrow-bandgap nonfullerene acceptors. **2019**, 12, 3225-3246	154
1024	A 9,9?-bifluorenylidene derivative containing four 1,1-dicyanomethylene-3-indanone end-capped groups as an electron acceptor for organic photovoltaic cells. **2019**, 43, 18110-18119	3
1023	Achieving efficient inverted perovskite solar cells with excellent electron transport and stability by employing a ladder-conjugated perylene diimide dimer. **2019**, 7, 24191-24198	32
1022	A blade-coated highly efficient thick active layer for non-fullerene organic solar cells. **2019**, 7, 22265-22273	34
1021	Printed Large-Area Photovoltaic Modules Based on Small Molecules with Different Alkyl Terminal Chains. **2019**, 2, 8885-8893	5
1020	Tailoring the growth and electronic structures of organic molecular thin films. **2019**, 31, 503001	6

1019	Absolute Quantification of Photo-/Electroluminescence Imaging for Solar Cells: Definition and Application to Organic and Perovskite Devices. **2019**, 1, 2489-2501	9
1018	Enhancing the efficiency of PTB7-Th:COi8DFIC-based ternary solar cells with versatile third components. **2019**, 6, 041405	15
1017	Characteristics of an organic photodetector with a conjugated donor and non-fullerene acceptor for indirect X-ray detection. **2019**, 14, P12012-P12012	0
1016	A new non-fullerene acceptor based on the combination of a heptacyclic benzothiadiazole unit and a thiophene-fused end group achieving over 13% efficiency. **2019**, 21, 26557-26563	19
1015	Solution-processable n-doped graphene-containing cathode interfacial materials for high-performance organic solar cells. **2019**, 12, 3400-3411	91
1014	Electronic couplings and rates of excited state charge transfer processes at poly(thiophene-co-quinoxaline)-PCBM interfaces: two- versus multi-state treatments. **2019**, 21, 25606-25625	4
1013	Semitransparent solar cells with over 12% efficiency based on a new low bandgap fluorinated small molecule acceptor. **2019**, 3, 2483-2490	43
1012	[2,2'-Bithiophene]-4,4'-dicarboxamide: a novel building block for semiconducting polymers.. **2019**, 9, 30496-30502	3
1011	High-yielding Pd(dba)CH-based four-fold Sonogashira coupling with selenophene-conjugated magnesium tetraethynylporphyrin for organic solar cells.. **2019**, 9, 32562-32572	2
1010	A zinc(II) complex of di(naphthylethynyl)azadipyrromethene with low synthetic complexity leads to OPV with high industrial accessibility. **2019**, 7, 24614-24625	6
1009	Suppressing photo-oxidation of non-fullerene acceptors and their blends in organic solar cells by exploring material design and employing friendly stabilizers. **2019**, 7, 25088-25101	61
1008	Polymer Donors for High-Performance Non-Fullerene Organic Solar Cells. **2019**, 131, 4488-4499	25
1007	Dithienothiapyran: An Excellent Donor Block for Building High-Performance Copolymers in Nonfullerene Polymer Solar Cells. **2019**, 11, 3308-3316	18
1006	New Fused Pyrrolopyridine-Based Copolymers for Organic Solar Cell. **2019**, 40, e1800784	3
1005	High-efficiency non-fullerene polymer solar cell fabricated by a simple process using new conjugated terpolymers. **2019**, 7, 111-118	18
1004	An electrochromic behavior of novel polythiophenes obtained from unsymmetrical monomers- a comprehensive study. **2019**, 247, 202-211	3
1003	Probing charge transfer states at organic and hybrid internal interfaces by photothermal deflection spectroscopy. **2019**, 31, 124001	7
1002	Synthesis of new conjugated small-molecule-dyes based on 2-(2-methyl-4H-chromen-4-ylidene)malononitrile as the electron-withdrawing group and their application in photovoltaic devices. **2019**, 163, 660-666	8

1001	Durable Ultraflexible Organic Photovoltaics with Novel Metal-Oxide-Free Cathode. **2019**, 29, 1808378	21
1000	The resurgence of organic photovoltaics. **2019**, 17, 15-20	3
999	Opto-electronic properties of non-fullerene fused-undecacyclic electron acceptors for organic solar cells. **2019**, 159, 150-159	46
998	Fused thienobenzene-thienothiophene electron acceptors for organic solar cells. **2019**, 37, 58-65	3
997	Synthesis of polyfluorenes by oxidative polymerization, their characterization and implementation in organic solar cells. **2019**, 30, 2716-2725	2
996	Numerical analysis with experimental verification to predict outdoor power conversion efficiency of inverted organic solar devices. **2019**, 135, 589-596	3
995	Recent Advances in Fullerene-free Polymer Solar Cells: Materials and Devices. **2019**, 37, 207-215	36
994	Enhanced Device Performance and Stability of Organic Photovoltaics Incorporating a Star-Shaped Multifunctional Additive. **2019**, 2, 833-843	11
993	Insights into Charge Separation and Transport in Ternary Polymer Solar Cells. **2019**, 11, 3299-3307	23
992	Controlling Molecular Packing and Orientation via Constructing a Ladder-Type Electron Acceptor with Asymmetric Substituents for Thick-Film Nonfullerene Solar Cells. **2019**, 11, 3098-3106	32
991	Composition-Morphology Correlation in PTB7-Th/PCBM Blend Films for Organic Solar Cells. **2019**, 11, 3125-3135	21
990	New-structure perylene diimide oligomers by the linkage of the bay- and imide-position for nonfullerene solar cells. **2019**, 163, 356-362	7
989	Real reason for high ideality factor in organic solar cells: Energy disorder. **2019**, 178, 193-200	10
988	Morphology Driven by Molecular Structure of Thiazole-Based Polymers for Use in Field-Effect Transistors and Solar Cells. **2019**, 25, 649-656	7
987	Improving the Electron Mobility of ITIC by End-Group Modulation: The Role of Fluorination and Extension. **2019**, 3, 1800251	19
986	Simply tuning the electron deficient units to achieve P and N-type conjugated polymers for organic solar cells. **2019**, 162, 728-733	1
985	Fullerene-Free Molecular Acceptors for Organic Photovoltaics. **2019**, 221-279	2
984	Modulated charge transport characteristics in solution-processed UV photodetector by incorporating localized built-in electric field. **2019**, 774, 887-895	2

983	Emerging solar cells energy trade-off: Interface engineering materials impact on stability and efficiency progress. **2019**, 43, 1670-1688	7
982	Fluorination with an enlarged dielectric constant prompts charge separation and reduces bimolecular recombination in non-fullerene organic solar cells with a high fill factor and efficiency > 13%. **2019**, 56, 494-501	43
981	Impact of electron-withdrawing and electron-donating substituents on the electrochemical and charge transport properties of indacenodithiophene-based small molecule acceptors for organic solar cells. **2019**, 32, e3909	6
980	Optical Analysis for Semitransparent Organic Solar Cells. **2019**, 3, 1800270	39
979	Spirobifluorene-cored wide bandgap non-fullerene small molecular acceptor with 3D structure for organic solar cells. **2019**, 162, 797-801	25
978	High-Performance Fullerene-Free Polymer Solar Cells Featuring Efficient Photocurrent Generation from Dual Pathways and Low Nonradiative Recombination Loss. **2019**, 4, 8-16	49
977	A Maverick Asymmetrical Backbone with Distinct Flanked Twist Angles Modulating the Molecular Aggregation and Crystallinity for High Performance Nonfullerene Solar Cells. **2019**, 9, 1802530	40
976	High-Performance Large-Area Organic Solar Cells Enabled by Sequential Bilayer Processing via Nonhalogenated Solvents. **2019**, 9, 1802832	100
975	The Use of Deep Learning to Fast Evaluate Organic Photovoltaic Materials. **2019**, 2, 1800116	27
974	Phenothiazine-based small molecules for bulk heterojunction organic solar cells; variation of side-chain polarity and length of conjugated system. **2019**, 65, 232-242	14
973	The Critical Impact of Material and Process Compatibility on the Active Layer Morphology and Performance of Organic Ternary Solar Cells. **2019**, 9, 1802293	28
972	Nanomorphology in ADA type small molecular acceptors-based bulk heterojunction polymer solar cells. **2019**, 35, 104-123	19
971	Isatin-derived non-fullerene acceptors towards high open circuit voltage solar cells. **2019**, 162, 898-904	10
970	Self-assembly monolayers manipulate the power conversion processes in organic photovoltaics. **2019**, 409, 66-75	6
969	A chlorinated polymer promoted analogue co-donors for efficient ternary all-polymer solar cells. **2019**, 62, 238-244	25
968	The optimization of intermediate semi-Bonding structure using solvent vapor annealing for high performance p-i-n structure perovskite solar cells. **2019**, 65, 300-304	3
967	Comparison of ZnO buffer layers prepared by spin coating or RF magnetron sputtering for application in inverted organic solar cells. **2019**, 778, 487-495	16
966	Structural optimization in the same polymer backbones for efficient polymer solar cells: Relationship between steric hindrance and molecular weight. **2019**, 71, 137-149	14

965	A1-A2 Type Wide Bandgap Polymers for High-Performance Polymer Solar Cells: Energy Loss and Morphology. **2019**, 3, 1800291		15
964	Nonfullerene Small-Molecule Acceptors for Organic Photovoltaics: Understanding the Impact of Methoxy Substitution Position on Molecular Packing and Electron-Transfer Properties. **2019**, 29, 1806845		15
963	12.5% Flexible Nonfullerene Solar Cells by Passivating the Chemical Interaction Between the Active Layer and Polymer Interfacial Layer. **2019**, 31, e1806616		110
962	Controlling the Cyano-Containing A2 Segments in A2-A1-D-A1-A2 Type Non-Fullerene Acceptors to Combine with a Benzotriazole-Based p-Type Polymer: Same-Acceptor-Strategy for High VOC Organic Solar Cells. **2019**, 3, 1800332		21
961	Emerging Nanotechnology for Third Generation Photovoltaic Cells. **2019**, 99-133		1
960	In-Operando Study of the Effects of Solvent Additives on the Stability of Organic Solar Cells Based on PTB7-Th:PC71BM. **2019**, 4, 464-470		47
959	Low-cost light manipulation coatings for polymer solar cell photocurrent increase under various incident angles. **2019**, 7, 68-74		1
958	Cu2S nanocrystals incorporated highly efficient non-fullerene ternary organic solar cells. **2019**, 19, 394-399		6
957	Efficient All-Polymer Solar Cells based on a New Polymer Acceptor Achieving 10.3% Power Conversion Efficiency. **2019**, 4, 417-422		160
956	Energy-Gap Law for Photocurrent Generation in Fullerene-Based Organic Solar Cells: The Case of Low-Donor-Content Blends. *Journal of the American Chemical Society*, **2019**, 141, 2329-2341	16.4	36
955	Organic materials for optoelectronic applications: Overview. **2019**, 3-42		3
954	Single-Junction Organic Solar Cell with over 15% Efficiency Using Fused-Ring Acceptor with Electron-Deficient Core. **2019**, 3, 1140-1151		2595
953	Enhanced light-harvesting of benzodithiophene conjugated porphyrin electron donors in organic solar cells. **2019**, 7, 380-386		9
952	An all-small-molecule organic solar cell derived from naphthalimide for solution-processed high-efficiency nonfullerene acceptors. **2019**, 7, 709-717		12
951	New indolo carbazole-based non-fullerene n-type semiconductors for organic solar cell applications. **2019**, 7, 543-552		14
950	Air-Processed, Stable Organic Solar Cells with High Power Conversion Efficiency of 7.41. **2019**, 15, e1804671		14
949	A non-fullerene acceptor enables efficient P3HT-based organic solar cells with small voltage loss and thickness insensitivity. **2019**, 30, 1277-1281		19
948	On the homogeneity of the external quantum efficiency in a free OPV roll-to-roll flexible solar module. **2019**, 247, 248-254		3

947	Highly Efficient Benzo-Furan-Based Electron Acceptor Derived from One-Pot Synthesis for High-Performance Bulk Heterojunction Solar Cells. **2019**, 2, 1019-1025	3
946	Simple near-Infrared Nonfullerene Acceptors Enable Organic Solar Cells with >9% Efficiency. **2019**, 11, 6717-6723	18
945	Fluorinated polyethylene glycol as cathode interlayer with enhanced dipole strength for efficient organic solar cells. **2019**, 180, 57-62	11
944	Asymmetric selenophene-based non-fullerene acceptors for high-performance organic solar cells. **2019**, 7, 1435-1441	42
943	A new narrow bandgap polymer as donor material for high performance non-fullerene polymer solar cells. **2019**, 64, 241-246	5
942	Effects of selenium substitution on optical, electrochemical, and photovoltaic properties of oxindole-based □conjugated polymers. **2019**, 64, 131-137	3
941	High-Performance Nonfullerene Polymer Solar Cells Based on a Wide-Bandgap Polymer without Extra Treatment. **2019**, 40, e1800660	5
940	Recent progress on non-fullerene acceptors for organic photovoltaics. **2019**, 24, 94-118	87
939	Wide bandgap donor-acceptor conjugated polymers with alkylthiophene as side chains for high-performance non-fullerene polymer solar cells. **2019**, 65, 31-38	6
938	A near-infrared small molecule acceptor based on the quinoidal form for organic solar cells. **2019**, 12, 1950003	
937	Solar-powered overall water splitting system combing metal-organic frameworks derived bimetallic nanohybrids based electrocatalysts and one organic solar cell. **2019**, 56, 82-91	42
936	Synthesis and applications of thieno[3,4-c]pyrrole-4,6-dione based linear to star-burst novel D□A conjugated oligomers for organic photovoltaics. **2019**, 1, 1	2
935	The progress of non-fullerene small molecular acceptors for high efficiency polymer solar cells. **2019**, 190, 83-97	23
934	A solar tube: Efficiently converting sunlight into electricity and heat. **2019**, 55, 269-276	36
933	Polymersolarzellen: Fortschritt, Herausforderungen und Perspektiven. **2019**, 131, 4173-4186	24
932	All-Polymer Solar Cells: Recent Progress, Challenges, and Prospects. **2019**, 58, 4129-4142	305
931	Overcoming the trade-off between Voc and Jsc: Asymmetric chloro-substituted two-dimensional benzo[1,2-b:4,5-b?]dithiophene-based polymer solar cells. **2019**, 162, 746-754	20
930	Near-infrared non-fullerene acceptors based on dithienyl[1,2-b:4,5-b□]benzodithiophene core for high performance PTB7-Th-based polymer solar cells. **2019**, 65, 63-69	9

929	Synthesis of organic molecule donor for efficient organic solar cells with low acceptor content. **2019**, 64, 54-61	3
928	Bithiazole-based copolymer with deep HOMO level and noncovalent conformational lock for organic photovoltaics. **2019**, 64, 110-116	11
927	A bifunctional conjugated polyelectrolyte for the interfacial engineering of polymer solar cells. **2019**, 538, 611-619	9
926	13%-Efficiency Quaternary Polymer Solar Cell with Nonfullerene and Fullerene as Mixed Electron Acceptor Materials. **2019**, 11, 766-773	15
925	Si-Bridged Ladder-Type Small-Molecule Acceptors for High-Performance Organic Photovoltaics. **2019**, 11, 1125-1134	13
924	Large-Area Organic Solar Cells: Material Requirements, Modular Designs, and Printing Methods. **2019**, 31, e1805089	152
923	Phthalimide-Based High Mobility Polymer Semiconductors for Efficient Nonfullerene Solar Cells with Power Conversion Efficiencies over 13. **2019**, 6, 1801743	32
922	Modulating the morphology and molecular arrangement via the well-compatible polymer donor in multiple working mechanisms interwined ternary organic solar cells. **2019**, 66, 13-23	10
921	Angular/linear-shaped indacenodithiophene (IDT) for donor-acceptor copolymers: Geometric shape effects on physical properties and photovoltaic performance. **2019**, 162, 11-19	4
920	Regioisomeric wide-band-gap polymers with different fluorine topologies for non-fullerene organic solar cells. **2019**, 10, 395-402	13
919	High Performance Roll-to-Roll Produced Fullerene-Free Organic Photovoltaic Devices via Temperature-Controlled Slot Die Coating. **2019**, 29, 1805825	49
918	Influence of Bridging Groups on the Photovoltaic Properties of Wide-Bandgap Poly(BDTT-alt-BDD)s. **2019**, 11, 1394-1401	5
917	Spin-dependent recombination of the charge-transfer state in photovoltaic polymer/fullerene blends. **2019**, 117, 2654-2663	9
916	Multichannel Strategies to Produce Stabilized Azaphenalene Diradicals: A Predictable Model to Generate Self-Doped Cathode Interfacial Layers for Organic Photovoltaics. **2019**, 29, 1806125	15
915	Quenching to the Percolation Threshold in Organic Solar Cells. **2019**, 3, 443-458	128
914	Effects of inserting keto-functionalized side-chains instead of imide-functionalized side-chain on the pyrrole backbone of 2,5-bis(2-thienyl)pyrrole-based polymers for organic solar cells. **2019**, 371, 387-394	2
913	Steric Engineering of Alkylthiolation Side Chains to Finely Tune Miscibility in Nonfullerene Polymer Solar Cells. **2019**, 9, 1802686	42
912	Isomery-Dependent Miscibility Enables High-Performance All-Small-Molecule Solar Cells. **2019**, 15, e1804271	43

911	Versatile Ternary Approach for Novel Organic Solar Cells: A Review. **2019**, 3, 1800263	94
910	The effect of one- or two-dimensional conjugated benzodithiophene in polymeric donors on the device performance of non-fullerene organic solar cells. **2019**, 163, 221-226	1
909	Atomic layer deposition of ZnO electron transporting layers directly onto the active layer of organic solar cells. **2019**, 64, 37-46	20
908	Synthesis of low band-gap 2D conjugated polymers and their application for organic field effect transistors and solar cells. **2019**, 64, 27-36	10
907	End-chain effects of non-fullerene acceptors on polymer solar cells. **2019**, 64, 1-6	11
906	End-capped group manipulation of fluorene-based small molecule acceptors for efficient organic solar cells. **2019**, 156, 252-259	14
905	Highly twisted ladder-type backbone bearing perylene diimides for non-fullerene acceptors in organic solar cells. **2019**, 161, 221-226	11
904	Impact of Phosphorescent Sensitizers and Morphology on the Photovoltaic Performance in Organic Solar Cells. **2019**, 2, 1800114	7
903	Non-fullerene polymer acceptors based on perylene diimides in all-polymer solar cells. **2019**, 189, 103-117	38
902	Moisture stability in nanostructured perovskite solar cells. **2019**, 237, 356-360	18
901	The Dawn of Single Material Organic Solar Cells. **2019**, 6, 1801026	83
900	Efficient Polymer Solar Cells Based on Non-fullerene Acceptors with Potential Device Lifetime Approaching 10 Years. **2019**, 3, 215-226	229
899	Oligo(ethylene oxide) chains in fluorene bridge units of perylenediimide dimers as an efficient strategy for improving the photovoltaic performance in organic solar cells. **2019**, 161, 188-196	7
898	Isoindigo-based conjugated polymer for high-performance organic solar cell with a high VOC of 1.06 V as processed from non-halogenated solvent. **2019**, 161, 113-118	16
897	Effects of replacing benzodithiophene with a benzothiadiazole derivative on an efficient wide band-gap benzodithiophene-alt-pyrrolo[3,4-c]pyrrole-1,3(2H,5H)-dione copolymer. **2019**, 368, 162-167	5
896	Effects of processing additives in non-fullerene organic bulk heterojunction solar cells with efficiency >11%. **2019**, 30, 217-221	13
895	Critical review of the molecular design progress in non-fullerene electron acceptors towards commercially viable organic solar cells. **2019**, 48, 1596-1625	617
894	Performance and stability of semitransparent OPVs for building integration: A benchmarking analysis. **2019**, 137, 177-188	14

893	Organic solar cells: Materials and prospects of graphene for active and interfacial layers. **2020**, 45, 261-288	6
892	Heteroatom substitution-induced asymmetric ADA type non-fullerene acceptor for efficient organic solar cells. **2020**, 40, 144-150	26
891	Efficiency enhancement of organic solar cells enabled by interface engineering of sol-gel zinc oxide with an oxadiazole-based material. **2020**, 76, 105483	12
890	Effect of interface modification in polymer solar cells: An in-depth investigation of the structural variation of organic dye for interlayer material. **2020**, 173, 107927	8
889	Rationally pairing photoactive materials for high-performance polymer solar cells with efficiency of 16.53%. **2020**, 63, 265-271	104
888	Nonfullerene acceptors with an N-annulated perylene core and two perylene diimide units for efficient organic solar cells. **2020**, 173, 107970	7
887	High-Performance and Stable Nonfullerene Acceptor-Based Organic Solar Cells for Indoor to Outdoor Light. **2020**, 5, 170-179	51
886	Trendsetters in High-Efficiency Organic Solar Cells: Toward 20% Power Conversion Efficiency. **2020**, 4, 1900342	42
885	A Nonfullerene Acceptor with Alkylthio- and Dimethoxy-Thiophene-Groups Yielding High-Performance Ternary Organic Solar Cells. **2020**, 4, 1900353	20
884	High-resolution mapping of a major and consensus quantitative trait locus for oil content to a ~ 0.8-Mb region on chromosome A08 in peanut (Arachis hypogaea L.). **2020**, 133, 37-49	20
883	Robust random forest based non-fullerene organic solar cells efficiency prediction. **2020**, 76, 105465	26
882	Effects of Short-Axis Alkoxy Substituents on Molecular Self-Assembly and Photovoltaic Performance of Indacenodithiophene-Based Acceptors. **2020**, 30, 1906855	32
881	Optoelectronic properties and aggregation effects on the performance of planar versus contorted pyrene-cored perylenediimide dimers for organic solar cells. **2020**, 173, 107976	2
880	Investigation of newly designed asymmetric chromophore in view of power conversion efficiency improvements for organic solar cells. **2020**, 260, 126865	6
879	Tuning opto-electronic properties of alkoxy-induced based electron acceptors in infrared region for high performance organic solar cells. **2020**, 298, 111963	24
878	Asymmetrical side-chain engineering of small-molecule acceptors enable high-performance nonfullerene organic solar cells. **2020**, 67, 104209	22
877	Organic Photodetectors for Next-Generation Wearable Electronics. **2020**, 32, e1902045	214
876	Solution-Processed Ternary Oxides as Carrier Transport/Injection Layers in Optoelectronics. **2020**, 10, 1900903	25

875	Germinant ZnO nanorods as a charge-selective layer in organic solar cells. **2020**, 55, 89-94	5
874	Revelating mechnism of light ideality factor in organic solar cells. **2020**, 78, 105559	
873	Photonic effect of a central ultrathin metal film on the performance of series and parallel homo-tandem solar cells. **2020**, 206, 110250	
872	Efficient polymer solar cells that use conjugated polyelectrolyte with a tetravalent amine-end side chain. **2020**, 77, 105542	1
871	Synthesis and characterization of new nonfullerene electron acceptors with a chrysene core. **2020**, 174, 108012	3
870	Regulating the phase separation of ternary organic solar cells via 3D architectured AIE molecules. **2020**, 68, 104271	29
869	A Novel Carbazole-Based Nonfullerene Acceptor for High-Efficiency Polymer Solar Cells. **2020**, 4, 1900417	12
868	High crystalline small molecule manipulates polymer-fullerene morphology and enables 20% improvement in fill factor and device performance. **2020**, 77, 105419	3
867	Impact of Noncovalent Sulfur–Fluorine Interaction Position on Properties, Structures, and Photovoltaic Performance in Naphthobisthiadiazole-Based Semiconducting Polymers. **2020**, 10, 1903278	25
866	Surface Modification of SnO via MAPbI Nanowires for a Highly Efficient Non-Fullerene Acceptor-Based Organic Solar Cell. **2020**, 12, 5120-5127	15
865	Understanding the Interplay of Transport-Morphology-Performance in PBDB-T-Based Polymer Solar Cells. **2020**, 4, 1900524	21
864	The effect of aggregation behavior on photovoltaic performances in benzodithiophene-thiazolothiazole-based wide band-gap conjugated polymers with side chain position changes. **2020**, 11, 1629-1636	22
863	Translating local binding energy to a device effective one. **2020**, 4, 760-771	4
862	A chlorinated nonacyclic carbazole-based acceptor affords over 15% efficiency in organic solar cells. **2020**, 8, 1131-1137	48
861	Study of photovoltaic performances for asymmetrical and symmetrical chlorinated thiophene-bridge-based conjugated polymers. **2020**, 8, 2301-2306	9
860	Improving the performance of near infrared binary polymer solar cells by adding a second non-fullerene intermediate band-gap acceptor. **2020**, 8, 909-915	39
859	Ternary Organic Solar Cell with a Near-Infrared Absorbing Selenophene–Diketopyrrolopyrrole-Based Nonfullerene Acceptor and an Efficiency above 10%. **2020**, 4, 1900471	9
858	Efficiency enhancement of a fluorinated wide-bandgap polymer for ternary nonfullerene organic solar cells. **2020**, 188, 122131	7

857	Potassium-Presenting Zinc Oxide Surfaces Induce Vertical Phase Separation in Fullerene-Free Organic Photovoltaics. **2020**, 20, 715-721		34
856	Atom-Varied Side Chains in Conjugated Polymers Affect Efficiencies of Photovoltaic Devices Incorporating Small Molecules. **2020**, 2, 636-646		12
855	Recent advances of polymer acceptors for high-performance organic solar cells. **2020**, 8, 28-43		38
854	Novel wide-bandgap non-fullerene acceptors for efficient tandem organic solar cells. **2020**, 8, 1164-1175		28
853	Efficiency Enhancement in Organic Solar Cells by Use of Cobalt Phthalocyanine (CoPc) Thin Films. **2020**, 20, 3703-3709		3
852	Non-Fullerene Organic Solar Cells Based on Benzo[1,2-b:4,5-b?]difuran-Conjugated Polymer with 14% Efficiency. **2020**, 30, 1906809		27
851	Effects of doping methods and dopant sizes on the performance of solar cells constructed with anchor-guided photoelectrochemical polymerization of thiophene. **2020**, 330, 135250		3
850	Energy Transfer to a Stable Donor Suppresses Degradation in Organic Solar Cells. **2020**, 30, 1907432		21
849	The role of chemical design in the performance of organic semiconductors. **2020**, 4, 66-77		205
848	A nuanced approach for assessing OPV materials for large scale applications. **2020**, 4, 940-949		8
847	Boosted photovoltaic performance of indenothiophene-based molecular acceptor via fusing a thiophene. **2020**, 8, 630-636		5
846	Influence of Substituent Groups on Chemical Reactivity Kinetics of Nonfullerene Acceptors. **2020**, 124, 2307-2312		23
845	Subtle Polymer Donor and Molecular Acceptor Design Enable Efficient Polymer Solar Cells with a Very Small Energy Loss. **2020**, 30, 1907570		76
844	Scalable fabrication of organic solar cells based on non-fullerene acceptors. **2020**, 5, 014004		50
843	PBDB-T and its derivatives: A family of polymer donors enables over 17% efficiency in organic photovoltaics. **2020**, 35, 115-130		141
842	Modification of Indacenodithiophene-Based Polymers and Its Impact on Charge Carrier Mobility in Organic Thin-Film Transistors. *Journal of the American Chemical Society*, **2020**, 142, 652-664	16.4	55
841	Enhanced Organic and Perovskite Solar Cell Performance through Modification of the Electron-Selective Contact with a Bodipy-Porphyrin Dyad. **2020**, 12, 1120-1131		13
840	Effect of molecular structure of benzo[1,2-b:4,5-b?]dithiophene-based push-pull type donor polymers on performance panchromatic organic photodiodes. **2020**, 78, 105580		4

839	Reduced Energy Loss in Non-Fullerene Organic Solar Cells with Isomeric Donor Polymers Containing Thiazole Espacers. **2020**, 12, 753-762	17
838	Largely improved bulk-heterojunction morphology in organic solar cells based on a conjugated terpolymer donor via a ternary strategy. **2020**, 186, 122050	5
837	Near-infrared organic photoelectric materials for light-harvesting systems: Organic photovoltaics and organic photodiodes. **2020**, 2, 57-91	36
836	New Conjugated Polymers Based on Dithieno[2,3-e:3?,2?-g]Isoindole-7,9(8H)-Dione Derivatives for Applications in Nonfullerene Polymer Solar Cells. **2020**, 4, 1900475	3
835	Effects of Monofluorinated Positions at the End-Capping Groups on the Performances of Twisted Non-Fullerene Acceptor-Based Polymer Solar Cells. **2020**, 12, 789-797	18
834	Propeller-like acceptors with difluoride perylene diimides for organic solar cells. **2020**, 78, 105569	9
833	Comparative study on the effects of alkylsilyl and alkylthio side chains on the performance of fullerene and non-fullerene polymer solar cells. **2020**, 77, 105572	2
832	Effects of Espacer and fluorine loading on the optoelectronic and photovoltaic properties of (X-DADAD)n benzodithiophene-based conjugated polymers. **2020**, 259, 116231	5
831	Halogenation on terminal groups of ITIC based electron acceptors as an effective strategy for efficient polymer solar cells. **2020**, 195, 429-435	13
830	Organic Solar Cells Based on Non-fullerene Small-Molecule Acceptors: Impact of Substituent Position. **2020**, 2, 119-135	20
829	Chalcogen-Fused Perylene Diimides-Based Nonfullerene Acceptors for High-Performance Organic Solar Cells: Insight into the Effect of O, S, and Se. **2020**, 4, 1900453	13
828	High-efficiency organic solar cells with low voltage-loss of 0.46 V. **2020**, 31, 1991-1996	11
827	Processing Strategies for an Organic Photovoltaic Module with over 10% Efficiency. **2020**, 4, 189-206	87
826	A built-in electric field induced by ferroelectrics increases halogen-free organic solar cell efficiency in various device types. **2020**, 68, 104327	26
825	Recent progress in development of diverse kinds of hole transport materials for the perovskite solar cells: A review. **2020**, 119, 109608	39
824	Intensification of Vertical Phase Separation for Efficient Polymer Solar Cell via Piecewise Spray Assisted by a Solvent Driving Force. **2020**, 4, 1900458	11
823	Deciphering the Role of Fluorination: Morphological Manipulation Prompts Charge Separation and Reduces Carrier Recombination in All-Small-Molecule Photovoltaics. **2020**, 4, 1900528	21
822	On the effect of pattern substitution and oligo(ethylene oxide) side-chain modification on thiophene-quinoxaline copolymers and their applications in photovoltaic cells. **2020**, 78, 105612	3

821	Synthesis of Carbon Nanomaterials from Biomass Utilizing Ionic Liquids for Potential Application in Solar Energy Conversion and Storage. **2020**, 13,		5
820	Thiazole-Functionalized Terpolymer Donors Obtained via Random Ternary Copolymerization for High-Performance Polymer Solar Cells. **2020**, 53, 9034-9042		12
819	PDI derivatives with functional active position as non-fullerene small molecule acceptors in organic solar cells: From different core linker to various conformation. **2020**, 21, 100799		11
818	Molecular insights into photostability of fluorinated organic photovoltaic blends: role of fullerene electron affinity and donor□cceptor miscibility. **2020**, 4, 5721-5731		2
817	Fluorination effect of benzo[c][1,2,5]thiadiazole-alt-oligothiophene-based copolymers involving all straight flexible side chain in photovoltaic application. **2020**, 108, 110321		2
816	Efficient organic solar cells with the active layer fabricated from glovebox to ambient condition. **2020**, 117, 133301		6
815	Selenium Heterocyclic Electron Acceptor with Small Urbach Energy for As-Cast High-Performance Organic Solar Cells. *Journal of the American Chemical Society*, **2020**, 142, 18741-18745	16.4	130
814	Investigating the active layer thickness dependence of non-fullerene organic solar cells based on PM7 derivatives. **2020**, 8, 15459-15469		8
813	Alkyloxime Side Chain Enabled Polythiophene Donors for Efficient Organic Solar Cells. **2020**, 53, 8796-8808		9
812	Elucidating the Key Role of the Cyano (□?N) Group to Construct Environmentally Friendly Fused-Ring Electron Acceptors. **2020**, 124, 23059-23068		12
811	Altering the Positions of Chlorine and Bromine Substitution on the End Group Enables High-Performance Acceptor and Efficient Organic Solar Cells. **2020**, 10, 2002649		59
810	Recent advances in non-fullerene organic solar cells: from lab to fab. **2020**, 56, 14337-14352		40
809	Deciphering the Role of Chalcogen-Containing Heterocycles in Nonfullerene Acceptors for Organic Solar Cells. **2020**, 5, 3415-3425		39
808	Long-range exciton diffusion in molecular non-fullerene acceptors. **2020**, 11, 5220		87
807	Effect of the chlorine substitution position of the end-group on intermolecular interactions and photovoltaic performance of small molecule acceptors. **2020**, 13, 5028-5038		29
806	Material perceptions and advances in molecular heteroacenes for organic solar cells. **2020**, 13, 4738-4793		22
805	Progress in Materials, Solution Processes, and Long-Term Stability for Large-Area Organic Photovoltaics. **2020**, 32, e2002217		52
804	Electrical performance of PTB7-Th:PC71BM solar cell when in contact with the environment. **2020**, 208, 583-590		1

803	Tailoring non-fullerene acceptors using selenium-incorporated heterocycles for organic solar cells with over 16% efficiency. **2020**, 8, 23756-23765	42
802	Long-range exciton diffusion in non-fullerene acceptors and coarse bulk heterojunctions enable highly efficient organic photovoltaics. **2020**, 8, 15687-15694	15
801	Cyano-functionalized small-molecule acceptors for high-efficiency wide-bandgap organic solar cells. **2020**, 8, 9195-9200	3
800	Stability of Non-Flexible vs. Flexible Inverted Bulk-Heterojunction Organic Solar Cells with ZnO as Electron Transport Layer Prepared by a Sol-Gel Spin Coating Method. **2020**, 3, 319-327	5
799	An Ink-Composition Engineering Approach for Upscaling of Organic Solar Cells with High-Efficiency Retention Factor. **2020**, 4, 2000246	9
798	Fused-ring bislactone building blocks for polymer donors. **2020**, 65, 1792-1795	16
797	A 2,5-difluoro benzene-based low cost and efficient polymer donor for non-fullerene solar cells. **2020**, 207, 720-728	8
796	Selective Hole and Electron Transport in Efficient Quaternary Blend Organic Solar Cells. **2020**, 4, 1790-1805	79
795	Role of interface properties in organic solar cells: from substrate engineering to bulk-heterojunction interfacial morphology. **2020**, 4, 2863-2880	32
794	Highly efficient electrochemical energy storage of fluorinated nano-polyindoles with different morphology. **2020**, 349, 136410	5
793	Chemical Sensitization for Electric Properties Improvement of PBDB-T-SF Polymer for Solar Cells Application. **2020**, 877, 012002	0
792	Nonfullerene Acceptors: A Renaissance in Organic Photovoltaics?. **2020**, 10, 2001788	61
791	Naphthalene Diimide-Based Molecules for Efficient and Stable Perovskite Solar Cells. **2020**, 2020, 5329-5339	4
790	Printable and Large-Area Organic Solar Cells Enabled by a Ternary Pseudo-Planar Heterojunction Strategy. **2020**, 30, 2003223	36
789	Overview of printing and coating techniques in the production of organic photovoltaic cells. **2020**, 44, 9912-9931	9
788	Redox-active fluoropolymers. **2020**, 115-141	1
787	Synthesis of Selenium Based DII-A-DI-A-DII Type Small Molecular e-Donors Employing Stille Coupling and Their Thermal, Electrochemical and Photovoltaic Properties. **2020**, 5, 13800-13806	0
786	Optimization of the Bulk Heterojunction of All-Small-Molecule Organic Photovoltaics Using Design of Experiment and Machine Learning Approaches. **2020**, 12, 54596-54607	11

785	The Crystallinity Control of Polymer Donor Materials for High-Performance Organic Solar Cells. **2020**, 8, 603134	6
784	Unraveling the influence of non-fullerene acceptor molecular packing on photovoltaic performance of organic solar cells. **2020**, 11, 6005	44
783	Significantly Sensitized Ternary Blend Polymer Solar Cells with a Very Small Content of the Narrow-Band Gap Third Component That Utilizes Optical Interference. **2020**, 53, 10623-10635	10
782	Enhancing the photovoltaic performance of heteroheptacene-based nonfullerene acceptors through the synergistic effect of side-chain engineering and fluorination. **2020**, 8, 24543-24552	12
781	Incorporating Indium Selenide Nanosheets into a Polymer/Small Molecule Binary Blend Active Layer Enhances the Long-Term Stability and Performance of Its Organic Photovoltaics. **2020**, 12, 55023-55032	4
780	Understanding the Mechanism between Antisolvent Dripping and Additive Doping Strategies on the Passivation Effects in Perovskite Solar Cells. **2020**, 12, 56151-56160	15
779	Theoretical Design of Dithienopicenocarbazole-Based Molecules by Molecular Engineering of Terminal Units Toward Promising Non-fullerene Acceptors. **2020**, 8, 580252	2
778	Benzo[1,2-c:4,5-c?]dithiophene-4,8-dione (BDD) Core Building Block Based Dopant-Free Hole-Transport Materials for Efficient and Stable Perovskite Solar Cell. **2020**, 3, 10333-10339	3
777	Effects of Fluorination on Fused Ring Electron Acceptor for Active Layer Morphology, Exciton Dissociation, and Charge Recombination in Organic Solar Cells. **2020**, 12, 56231-56239	8
776	Theoretical Study of Endohedral Fullerenes M@C60 (M = Li, Na, or K) in Periodic Boundary Conditions. **2020**, 131, 548-557	1
775	Effects on Photovoltaic Characteristics by Organic Bilayer- and Bulk-Heterojunctions: Energy Losses, Carrier Recombination and Generation. **2020**, 12, 55945-55953	7
774	Improved Hole Transfer and Charge Generation in All-Polymer Photovoltaic Blends with a P□N Structure. **2020**, 124, 25262-25269	5
773	A Universal Fluorinated Polymer Acceptor Enables All-Polymer Solar Cells with >15% Efficiency. **2020**, 5, 3702-3707	98
772	Efficient Double- and Triple-Junction Nonfullerene Organic Photovoltaics and Design Guidelines for Optimal Cell Performance. **2020**, 5, 3692-3701	5
771	Effects of Fluorination Position on Fused-Ring Electron Acceptors. **2020**, 1, 2000006	4
770	Efficient Ternary Organic Solar Cells with a New Electron Acceptor Based on 3,4-(2,2-Dihexylpropylenedioxy)thiophene. **2020**, 12, 40590-40598	12
769	On the relations between backbone thiophene functionalization and charge carrier mobility of A□□A type small molecules. **2020**, 44, 15177-15185	1
768	Influence of Alkyl Substitution Position on Wide-Bandgap Polymers in High-Efficiency Nonfullerene Polymer Solar Cells. **2020**, 41, e2000170	1

767	Thienoquinolinone as a new building block for wide bandgap semiconducting polymer donors for organic solar cells. **2020**, 8, 12265-12271	1
766	Molecular engineering of A□D□D□A configured small molecular acceptors (SMAs) with promising photovoltaic properties for high-efficiency fullerene-free organic solar cells. **2020**, 52, 1	52
765	Nanoscale mobility mapping in semiconducting polymer films. **2020**, 218, 113081	1
764	Enhancement of photovoltaic efficiency through fine adjustment of indacene-based non-fullerene acceptor by minimal chlorination for polymer solar cells. **2020**, 1, 320-333	9
763	Non-halogenated additive engineering for morphology optimization in environmental-friendly solvent processed non-fullerene organic solar cells. **2020**, 86, 105893	5
762	An universal morphology regulator for efficient and stable nonfullerene organic solar cells by □ interaction. **2020**, 86, 105827	6
761	Fast Field-Insensitive Charge Extraction Enables High Fill Factors in Polymer Solar Cells. **2020**, 12, 38460-38469	3
760	Recent advances in high-performance organic solar cells enabled by acceptor□donor□acceptor□donor□cceptor (A□DA?D□A) type acceptors. **2020**, 4, 3487-3504	29
759	On the understanding of energy loss and device fill factor trade-offs in non-fullerene organic solar cells with varied energy levels. **2020**, 75, 105032	14
758	Embedded plasmonic nanoprisms in polymer solar cells: Band-edge resonance for photocurrent enhancement. **2020**, 8, 041116	0
757	Highly Efficient Nonfullerene Organic Photovoltaic Devices with 10% Power Conversion Efficiency Enabled by a Fine-Tuned and Solution-Processed Hole-Transporting Layer. **2020**, 4, 2000223	6
756	Facile Method of Solvent-Flushing To Building Component Distribution within Photoactive Layers for High-Performance Organic Solar Cells. **2020**, 12, 31459-31466	9
755	Dynamic behavior of photogenerated charge carriers in diketopyrrolopyrrole-linked tetrabenzoporphyrin-based bulk heterojunction thin films probed with time-resolved terahertz spectroscopy. **2020**, 400, 112693	1
754	Fluorination of a polymer donor through the trifluoromethyl group for high-performance polymer solar cells. **2020**, 8, 12149-12155	6
753	High-efficiency polymer solar cells controlled by photoelectrochemically formed ordered polythiophene active layers with various thicknesses. **2020**, 398, 112627	
752	The role of Y6 as the third component in fullerene-free ternary organic photovoltaics. **2020**, 181, 108613	15
751	High-Efficiency Indoor Organic Photovoltaics with a Band-Aligned Interlayer. **2020**, 4, 1486-1500	80
750	A "□Hole"-Containing Volatile Solid Additive Enabling 16.5% Efficiency Organic Solar Cells. **2020**, 23, 100965	35

749	Effects of a Fluorinated Donor Polymer on the Morphology, Photophysics, and Performance of All-Polymer Solar Cells Based on Naphthalene Diimide-Arylene Copolymer Acceptors. **2020**, 12, 16490-16502	13
748	Employing a Narrow-Band-Gap Mediator in Ternary Solar Cells for Enhanced Photovoltaic Performance. **2020**, 12, 16387-16393	14
747	Efficient Exciton Dissociation Enabled by the End Group Modification in Non-Fullerene Acceptors. **2020**, 124, 7691-7698	11
746	Near-Infrared Electron Acceptors with Unfused Architecture for Efficient Organic Solar Cells. **2020**, 12, 16700-16706	53
745	With PBDB-T as the Donor, the PCE of Non-Fullerene Organic Solar Cells Based on Small Molecule INTIC Increased by 52.4. **2020**, 13,	5
744	Two-Dimension Conjugated Acceptors Based on Benzodi(cyclopentadithiophene) Core with Thiophene-Fused Ending Group for Efficient Polymer Solar Cells. **2020**, 4, 2000071	8
743	Recent Progress on Indoor Organic Photovoltaics: From Molecular Design to Production Scale. **2020**, 5, 1186-1197	80
742	Fluorinated pyrazine-based D–A conjugated polymers for efficient non-fullerene polymer solar cells. **2020**, 8, 7083-7089	6
741	Trifluoromethylation Enables a 3D Interpenetrated Low-Band-Gap Acceptor for Efficient Organic Solar Cells. **2020**, 4, 688-700	121
740	Designing alkoxy-induced based high performance near infrared sensitive small molecule acceptors for organic solar cells. **2020**, 305, 112829	25
739	Theoretical Study of a Class of Organic D-–A Dyes for Polymer Solar Cells: Influence of Various –Spacers. **2020**, 10, 163	4
738	15.3% efficiency all-small-molecule organic solar cells enabled by symmetric phenyl substitution. **2020**, 63, 1142-1150	99
737	Recent progress in wide bandgap conjugated polymer donors for high-performance nonfullerene organic photovoltaics. **2020**, 56, 4750-4760	61
736	Excited-state electronic structure of molecules using many-body Green's functions: Quasiparticles and electron-hole excitations with VOTCA-XTP. **2020**, 152, 114103	12
735	Efficient Fused-Ring Extension of A-D-A-Type Non-Fullerene Acceptors by a Symmetric Replicating Core Unit Strategy. **2020**, 26, 12411-12417	6
734	Improved Average Figure-of-Merit of High-Efficiency Nonfullerene Solar Cells via Minor Combinatory Side Chain Approach. **2020**, 4, 2000062	25
733	Shining Light on Organic Solar Cells. **2020**, 4, 2000015	13
732	Synthetic strategy for thienothiophene-benzotriazole-based polymers with high backbone planarity and solubility for field-effect transistor applications. **2020**, 86, 150-157	6

731	Acceptor-donor-acceptor type molecules for high performance organic photovoltaics - chemistry and mechanism. **2020**, 49, 2828-2842	162
730	Carbazole-based green and blue-BODIPY dyads and triads as donors for bulk heterojunction organic solar cells. **2020**, 49, 5606-5617	20
729	Charge density modulation on asymmetric fused-ring acceptors for high-efficiency photovoltaic solar cells. **2020**, 4, 1747-1755	11
728	Exploiting Ternary Blends for Improved Photostability in High-Efficiency Organic Solar Cells. **2020**, 5, 1371-1379	83
727	Liquid-liquid equilibrium in polymer-fullerene mixtures; an in situ neutron reflectivity study. **2020**, 16, 3727-3739	2
726	Progress of the key materials for organic solar cells. **2020**, 63, 758-765	101
725	Barrier-Free Charge Separation Enabled by Electronic Polarization in High-Efficiency Non-fullerene Organic Solar Cells. **2020**, 11, 2585-2591	26
724	Interfacial engineering for organic and perovskite solar cells using molecular materials. **2020**, 53, 263001	2
723	Tuning the optoelectronic properties of Benzo Thiophene (BT-CIC) based non-fullerene acceptor organic solar cell. **2020**, 19, 2050003	16
722	Efficiency enhancement of small molecule organic solar cells using hexapropyltruxene as an interface layer. **2020**, 8, 4909-4918	2
721	Solution-Processed and Transparent Graphene Oxide/TiOx Gas Barrier via an Interfacial Photocatalytic Reduction. **2020**, 7, 1901318	1
720	Efficient light-harvesting, energy migration, and charge transfer by nanographene-based nonfullerene small-molecule acceptors exhibiting unusually long excited-state lifetime in the film state. **2020**, 11, 3250-3257	16
719	Solution-Processable Anode Double Buffer Layers for Inverted Polymer Solar Cells. **2020**, 217, 1901023	6
718	The photon absorber and interconnecting layers in multijunction organic solar cell. **2020**, 201, 28-44	13
717	Efficient modulation of end groups for the asymmetric small molecule acceptors enabling organic solar cells with over 15% efficiency. **2020**, 8, 5927-5935	23
716	Conformation-Tuning Effect of Asymmetric Small Molecule Acceptors on Molecular Packing, Interaction, and Photovoltaic Performance. **2020**, 16, e2001942	30
715	Designing Triphenylamine-Configured Donor Materials with Promising Photovoltaic Properties for Highly Efficient Organic Solar Cells. **2020**, 5, 7358-7369	43
714	Air-processed active-layer of organic solar cells investigated by conducting AFM for precise defect detection.. **2020**, 10, 24882-24892	5

713	In Operando GISAXS and GIWAXS Stability Study of Organic Solar Cells Based on PffBT4T-2OD:PCBM with and without Solvent Additive. **2020**, 7, 2001117	17
712	Indacenodifuran-Based Non-Fullerene Electron Acceptors for Efficient Polymer Solar Cells. **2020**, 3, 6133-6138	7
711	Toward Efficient All-Polymer Solar Cells via Halogenation on Polymer Acceptors. **2020**, 12, 33028-33038	28
710	Nongeminate charge recombination in organic photovoltaics. **2020**, 4, 4321-4351	9
709	Recent Progress in Flexible and Stretchable Organic Solar Cells. **2020**, 30, 2002529	62
708	Optimizing small conjugated molecules for solar-cell applications using an inverse-design method. **2020**, 100, 107654	1
707	Achieving efficient polymer solar cells based on benzodithiophene–thiazole-containing wide band gap polymer donors by changing the linkage patterns of two thiazoles. **2020**, 44, 13100-13107	4
706	Design, Synthesis and Photophysical Properties of Chlorinated Small Molecule Non-fullerene Acceptor Based on Benzotriazole for Organic Solar Cells. **2020**, 508, 012144	
705	3,4-Dicyanothiophene: A Versatile Building Block for Efficient Nonfullerene Polymer Solar Cells. **2020**, 10, 1904247	35
704	Influence of Covalent and Noncovalent Backbone Rigidification Strategies on the Aggregation Structures of a Wide-Band-Gap Polymer for Photovoltaic Cells. **2020**, 32, 1993-2003	21
703	High-Performance Ambient-Condition-Processed Polymer Solar Cells and Organic Thin-Film Transistors. **2020**, 5, 2747-2754	7
702	Elevated Photovoltaic Performance in Medium Bandgap Copolymers Composed of Indacenodi-thieno[3,2-]thiophene and Benzothiadiazole Subunits by Modulating the Bridge. **2020**, 12,	7
701	Organic solar cells based on non-fullerene acceptors of nine fused-ring by modifying end groups. **2020**, 81, 105662	5
700	Bromination: An Alternative Strategy for Non-Fullerene Small Molecule Acceptors. **2020**, 7, 1903784	46
699	Core Fluorination Enhances Solubility and Ambient Stability of an IDT-Based n-Type Semiconductor in Transistor Devices. **2020**, 30, 2000325	11
698	Role of the Interplay between Spinodal Decomposition and Crystal Growth in the Morphological Evolution of Crystalline Bulk Heterojunctions. **2020**, 8, 1901468	5
697	The role of connectivity in significant bandgap narrowing for fused-pyrene based non-fullerene acceptors toward high-efficiency organic solar cells. **2020**, 8, 5995-6003	8
696	Transannularly conjugated tetrameric perylene diimide acceptors containing [2.2]paracyclophane for non-fullerene organic solar cells. **2020**, 8, 6501-6509	26

695	Near-infrared electron acceptors with fused nonacyclic molecular backbones for nonfullerene organic solar cells. **2020**, 4, 1729-1738	12
694	Efficient Polymer Solar Cells Employing Solution-Processed Conjugated Polyelectrolytes with Differently Charged Side Chains. **2020**, 221, 1900554	3
693	Color-Selective Printed Organic Photodiodes for Filterless Multichannel Visible Light Communication. **2020**, 32, e1908258	54
692	Trifluoromethyl Group-Modified Non-Fullerene Acceptor toward Improved Power Conversion Efficiency over 13% in Polymer Solar Cells. **2020**, 12, 11543-11550	24
691	Halogenation effect promoted low bandgap polymers based on asymmetric isoindigo unit with low energy loss. **2020**, 69, 564-570	4
690	Asymmetrically Alkyl-Substituted Wide-Bandgap Nonfullerene Acceptor for Organic Solar Cells. **2020**, 4, 2000061	11
689	Mechanically Robust All-Polymer Solar Cells from Narrow Band Gap Acceptors with Hetero-Bridging Atoms. **2020**, 4, 658-672	189
688	High-Performance Ternary Organic Solar Cells with Controllable Morphology via Sequential Layer-by-Layer Deposition. **2020**, 12, 13077-13086	41
687	The influence of the terminal acceptor and oligomer length on the photovoltaic properties of ADA small molecule donors. **2020**, 8, 4763-4770	8
686	Non-fullerene electron acceptors constructed by simple electron-withdrawing core: Distinct effect of bithiazole vs thiazolothiazole core on photovoltaic properties. **2020**, 177, 108319	5
685	Effects of 1,8-diiodooctane on ultrafast charge carrier dynamics and photovoltaic performance in organic solar cells: A comparison of PC71BM and nonfullerene acceptor IT-M. **2020**, 81, 105690	2
684	Conjugated Random Terpolymer Donors towards High-Efficiency Polymer Solar Cells. **2020**, 38, 601-624	14
683	Measurement and Theoretical Interpretation of Exciton Diffusion as a Function of Intermolecular Separation for Squaraines Targeted for Bulk Heterojunction Solar Cells. **2020**, 124, 4032-4043	4
682	Efficient top illuminated microcavity organic solar cells using air stable composite semitransparent electrodes. **2020**, 79, 105636	6
681	Functionalized Amphiphilic Diblock Fullerene Derivatives as a Cathode Buffer Layer for Efficient Inverted Organic Solar Cells. **2020**, 5, 1336-1345	1
680	Over 17% efficiency ternary organic solar cells enabled by two non-fullerene acceptors working in an alloy-like model. **2020**, 13, 635-645	462
679	Various roles of dye molecules in organic ternary blend solar cells. **2020**, 176, 108231	5
678	Solution-Processed Transparent Electrodes for Emerging Thin-Film Solar Cells. **2020**, 120, 2049-2122	76

677	2D Conjugated Polyelectrolytes Possessing Identical Backbone with Active-Layer Polymer as Cathode Interlayer for Organic Solar Cells. **2020**, 41, e1900624	2
676	Multiple Temporal-Scale Photocarrier Dynamics Induced by Synergistic Effects of Fluorination and Chlorination in Highly Efficient Nonfullerene Organic Solar Cells. **2020**, 4, 1900552	10
675	A 16.4% efficiency organic photovoltaic cell enabled using two donor polymers with their side-chains oriented differently by a ternary strategy. **2020**, 8, 3676-3685	37
674	Multifunctional nanostructured materials for next generation photovoltaics. **2020**, 70, 104480	25
673	A carbon-doped tantalum dioxyfluoride as a superior electron transport material for high performance organic optoelectronics. **2020**, 70, 104508	5
672	Influence of Polymer Aggregation and Liquid Immiscibility on Morphology Tuning by Varying Composition in PffBT4T-2DT/Nonfullerene Organic Solar Cells. **2020**, 10, 1903248	18
671	Organic tandem solar cells with 18.6% efficiency. **2020**, 198, 160-166	53
670	Benzodithiophenedione-based polymers: recent advances in organic photovoltaics. **2020**, 12,	54
669	Crucial Role of Fluorine in Fully Alkylated Ladder-Type Carbazole-Based Nonfullerene Organic Solar Cells. **2020**, 12, 9555-9562	20
668	Effects of Annealing Temperature on the Performance of Organic Solar Cells Based on Polymer: Non-Fullerene Using V2O5 as HTL. **2020**, 8, 421-428	6
667	Thick-Film Organic Solar Cells Achieving over 11% Efficiency and Nearly 70% Fill Factor at Thickness over 400 nm. **2020**, 30, 1908336	70
666	H-Bonds-Assisted Molecular Order Manipulation of Nonfullerene Acceptors for Efficient Nonannealed Organic Solar Cells. **2020**, 10, 1903650	22
665	Dithieno[3,2-:2',3'-]pyrrol-Fused Asymmetrical Electron Acceptors: A Study into the Effects of Nitrogen-Functionalization on Reducing Nonradiative Recombination Loss and Dipole Moment on Morphology. **2020**, 7, 1902657	37
664	Modification on the Indacenodithieno[3,2-b]thiophene Core to Achieve Higher Current and Reduced Energy Loss for Nonfullerene Solar Cells. **2020**, 32, 1297-1307	29
663	Niobium doped TiO2 nanorod arrays as efficient electron transport materials in photovoltaic. **2020**, 450, 227715	9
662	Design Principles and Synergistic Effects of Chlorination on a Conjugated Backbone for Efficient Organic Photovoltaics: A Critical Review. **2020**, 32, e1906175	97
661	Effect of chlorination and fluorination of benzothiadiazole on the performance of polymer solar cells. **2020**, 137, 49006	1
660	An asymmetrical A□DAD□A-type acceptor simultaneously enhances voltage and current for efficient organic solar cells. **2020**, 8, 9670-9676	14

659	All-Small-Molecule Organic Solar Cells Based on a Fluorinated Small Molecule Donor With High Open-Circuit Voltage of 1.07 V. **2020**, 8, 329	7
658	Reduced interface energy loss in non-fullerene organic solar cells using room temperature-synthesized SnO2 quantum dots. **2020**, 52, 12-19	6
657	Perylene Diimide-Based Conjugated Polymers for All-Polymer Solar Cells. **2020**, 26, 12510-12522	13
656	Synthesis and supramolecular self-assembly of phenothiazine functionalized by carboxyphenyl fragments. **2020**, 69, 333-338	3
655	Rational design of a novel isoindigo-based conjugated terpolymer with panchromatic absorption and its application to polymer solar cells. **2020**, 179, 108391	6
654	A wide-bandgap nonplanar small molecule acceptor having indenofluorene core for non-fullerene polymer solar cells. **2020**, 180, 108409	5
653	Ultrafast Hole Transfer and Carrier Transport Controlled by Nanoscale-Phase Morphology in Nonfullerene Organic Solar Cells. **2020**, 11, 3226-3233	42
652	High-Efficiency Nonfullerene Organic Solar Cells Enabled by 1000 nm Thick Active Layers with a Low Trap-State Density. **2020**, 12, 18777-18784	50
651	New Phase for Organic Solar Cell Research: Emergence of Y-Series Electron Acceptors and Their Perspectives. **2020**, 5, 1554-1567	301
650	Fluorinated oligothiophene donors for high-performance nonfullerene small-molecule organic solar cells. **2020**, 4, 2680-2685	8
649	Reducing the Singlet-Triplet Energy Gap by End-Group π-Stacking Toward High-Efficiency Organic Photovoltaics. **2020**, 32, e2000975	32
648	The rational and effective design of nonfullerene acceptors guided by a semi-empirical model for an organic solar cell with an efficiency over 15%. **2020**, 8, 9726-9732	29
647	Ultrafast spectroscopic investigation of the effect of solvent additives on charge photogeneration and recombination dynamics in non-fullerene organic photovoltaic blends. **2020**, 8, 6724-6733	7
646	Case Study on the Correlation between Crystal Packing and Miscibility of Chlorinated Thiophene-Based Donor Polymers for Nonfullerene Organic Solar Cells with Long Shelf Life. **2020**, 4, 2000074	7
645	Green solvent-processed organic solar cells based on a low cost polymer donor and a small molecule acceptor. **2020**, 8, 7718-7724	20
644	Measuring Film-Depth-Dependent Light Absorption Spectra for Organic Photovoltaics. **2020**, 8, 211	3
643	In Situ Printing: Insights into the Morphology Formation and Optical Property Evolution of Slot-Die-Coated Active Layers Containing Low Bandgap Polymer Donor and Nonfullerene Small Molecule Acceptor. **2020**, 4, 2000086	7
642	Fused ring non-fullerene acceptors with benzothiophene dioxide end groups and their side chain effect investigations. **2020**, 180, 108452	7

641	Developing low boiling point solvent additives directly based on non-fullerene based active layer: Higher efficiency and better thickness tolerance. **2020**, 83, 105762	8
640	Higher open circuit voltage caused by chlorinated polymers endows improved efficiency of binary organic solar cell. **2020**, 83, 105776	1
639	Enhanced photovoltaic performance of benzodithiophene-alt-bis(thiophen-2-yl)quinoxaline polymers via Bridge engineering for non-fullerene organic solar cells. **2020**, 194, 122408	3
638	Optimized Molecular Packing and Nonradiative Energy Loss Based on Terpolymer Methodology Combining Two Asymmetric Segments for High-Performance Polymer Solar Cells. **2020**, 12, 20393-20403	6
637	Efficient Exciton Diffusion in Organic Bilayer Heterojunctions with Nonfullerene Small Molecular Acceptors. **2020**, 5, 1628-1635	29
636	Toward reliable high performing organic solar cells: Molecules, processing, and monitoring. **2020**, 8, 040908	4
635	High-Performance Fluorinated Fused-Ring Electron Acceptor with 3D Stacking and Exciton/Charge Transport. **2020**, 32, e2000645	81
634	Influences of the terminal groups on the performances of asymmetric small molecule acceptors-based polymer solar cells. **2020**, 178, 108388	7
633	Self-assembled bulk heterojunctions from integral molecules with nonconjugately linked donor and acceptor units for photovoltaic applications. **2020**, 4, 3190-3210	2
632	Heating induced aggregation in non-fullerene organic solar cells towards high performance. **2021**, 54, 131-137	14
631	Effects of BTA2 as the third component on the charge carrier generation and recombination behavior of PTB7:PC71BM photovoltaic system. **2021**, 15, 127-137	4
630	Benzodithiophene-based wide-bandgap small-molecule donors for organic photovoltaics with large open-circuit voltages. **2021**, 88, 105996	4
629	Recent advances of organometallic complexes for rechargeable batteries. **2021**, 429, 213650	13
628	Molecular designing of high-performance 3D star-shaped electron acceptors containing a truxene core for nonfullerene organic solar cells. **2021**, 34,	35
627	3D surfactant-dispersed graphenes as cathode interfacial materials for organic solar cells. **2021**, 64, 277-287	10
626	Quantifying Planarity in the Design of Organic Electronic Materials. **2021**, 60, 1364-1373	15
625	On the Understandings of Dielectric Constant and Its Impacts on the Photovoltaic Efficiency in Organic Solar Cells. **2021**, 39, 381-390	12
624	A Pyrrole-Fused Asymmetrical Electron Acceptor for Polymer Solar Cells with Approaching 16% Efficiency. **2021**, 2, 2000052	8

623	Conjugated Polymers for Photon-to-Electron and Photon-to-Fuel Conversions. **2021**, 3, 60-92	20
622	Ternary organic solar cells: Improved optical and morphological properties allow an enhanced efficiency. **2021**, 32, 1359-1362	0
621	Benzobisoxazole Cruciforms: A Cross-conjugated Platform for Designing Tunable Donor/Acceptor Materials. **2021**, 10, 215-223	3
620	Intrinsically Chemo- and Thermostable Electron Acceptors for Efficient Organic Solar Cells. **2021**, 94, 183-190	6
619	An Alternative Approach to Simulate the Power Conversion Efficiency of Bulk Heterojunction Organic Solar Cells. **2021**, 218, 2000597	6
618	Curvature effects of electron-donating polymers on the device performance of non-fullerene organic solar cells. **2021**, 482, 229045	6
617	Recent progress in reducing voltage loss in organic photovoltaic cells. **2021**, 5, 709-722	20
616	Organic Solar Cells□The Path to Commercial Success. **2021**, 11, 2002653	90
615	Understanding the Work Function Modification by a Self-assembled Polyvinylpyrrolidone Layer in Inverted Organic Solar Cells. **2021**, 5, 2000575	0
614	A ring-locking strategy to enhance the chemical and photochemical stability of A□D□A-type non-fullerene acceptors. **2021**, 9, 1080-1088	22
613	Alkyl side chain engineering for difluorinated benzothiadiazole flanked non-fullerene acceptors toward efficient polymer solar cells. **2021**, 32, 219-231	3
612	Recent progress on all-small molecule organic solar cells using small-molecule nonfullerene acceptors. **2021**, 3, 175-200	45
611	Effects of Different Ring-Expanded Strategies for Nonfullerene Acceptors in Organic Photovoltaics under Donor and Acceptor Excitation. **2021**, 5, 2000615	1
610	Performance of asymmetric non-fullerene acceptors containing the 4,4,9,9-tetramethyl-4,9-dihydroselenopheno[2',3':5,6]-s-indaceno[1,2-b]thiophene core. **2021**, 186, 108988	2
609	Carbon Nanotubes for Photovoltaics: From Lab to Industry. **2021**, 11, 2002880	22
608	Wide bandgap polymer donors for high efficiency non-fullerene acceptor based organic solar cells. **2021**, 2, 115-145	16
607	An A-D-A?-D-A type unfused nonfullerene acceptor for organic solar cells with approaching 14% efficiency. **2021**, 64, 228-231	48
606	Non-fullerene all small molecule OBHJSCs with profound device characteristics. **2021**, 2, 549-560	1

605	Carboxylate substituted pyrazine: A simple and low-cost building block for novel wide bandgap polymer donor enables 15.3% efficiency in organic solar cells. **2021**, 82, 105679	17
604	Synthesizing alkynyl-decorated 2D conjugated nonfullerene acceptors for efficient polymer solar cells. **2021**, 5, 1836-1846	2
603	Morphology evolution with polymer chain propagation and its impacts on device performance and stability of non-fullerene solar cells. **2021**, 9, 556-565	11
602	Synergy strategy to the flexible alkyl and chloride side-chain engineered quinoxaline-based D-A conjugated polymers for efficient non-fullerene polymer solar cells. **2021**, 5, 1906-1916	5
601	Dithienobenzoxadiazole-based wide bandgap donor polymers with strong aggregation properties for the preparation of efficient as-cast non-fullerene polymer solar cells processed using a non-halogenated solvent. **2021**, 9, 249-259	5
600	Fused or unfused? Two-dimensional non-fullerene acceptors for efficient organic solar cells. **2021**, 9, 2319-2324	16
599	Energy-level modulation of coumarin-based molecular donors for efficient all small molecule fullerene-free organic solar cells. **2021**, 9, 1563-1573	9
598	The Path to 20% Power Conversion Efficiencies in Nonfullerene Acceptor Organic Solar Cells. **2021**, 11, 2003441	53
597	Review and perspective of materials for flexible solar cells. **2021**, 1, 100001	15
596	Effect of Side-Chain Modification on the Active Layer Morphology and Photovoltaic Performance of Liquid Crystalline Molecular Materials. **2021**, 13, 1086-1093	6
595	Theoretical study on 2D photoelectric emission of GaN nanorod array and nanocone array photocathode. **2021**, 45, 2265-2276	1
594	Fluorine substitution position effects on spiro(fluorene-9,9?-xanthene) cored hole transporting materials for high-performance planar perovskite solar cells. **2021**, 57, 341-350	5
593	Quantifying Planarity in the Design of Organic Electronic Materials. **2021**, 133, 1384-1393	1
592	High electron mobility fluorinated indacenodithiophene small molecule acceptors for organic solar cells. **2021**, 32, 1257-1262	6
591	DFT and TDDFT Studies of Non-Fullerene Organometallic Based Acceptors for Organic Photovoltaics. **2021**, 31, 1676-1687	2
590	Synergistic non-bonding interactions based on diketopyrrolo-pyrrole for elevated photoacoustic imaging-guided photothermal therapy. **2021**, 9, 908-916	5
589	Research Progress in Organic Solar Cells Based on Small Molecule Donors and Polymer Acceptors. **2021**, 79, 545	2
588	Solution-processed two-dimensional materials for next-generation photovoltaics. **2021**, 50, 11870-11965	21

587	Revealing Morphology Evolution in Highly Efficient Bulk Heterojunction and Pseudo-Planar Heterojunction Solar Cells by Additives Treatment. **2021**, 11, 2003390	44
586	Latest Progress on Photoabsorbent Materials for Multifunctional Semitransparent Organic Solar Cells. **2021**, 31, 2007931	39
585	Molecular tailoring of trifluoromethyl-substituted conjugated polymers for efficient organic solar cells. **2021**, 12, 3346-3351	1
584	A History and Perspective of Non-Fullerene Electron Acceptors for Organic Solar Cells. **2021**, 11, 2003570	141
583	Functional materials for various organic electronic devices. **2021**, 119-165	2
582	Designing a naphthyridinedione-based conjugated polymer for thickness-tolerant high efficiency polymer solar cells. **2021**, 9, 10846-10854	3
581	A facile strategy for third-component selection in non-fullerene acceptor-based ternary organic solar cells. **2021**, 14, 5009-5016	46
580	Characterization of optical manipulation using microlens arrays depending on the materials and sizes in organic photovoltaics.. **2021**, 11, 9766-9774	
579	Electron-deficient diketone unit engineering for non-fused ring acceptors enabling over 13% efficiency in organic solar cells. **2021**, 9, 14948-14957	11
578	Reducing non-radiative recombination energy loss via a fluorescence intensifier for efficient and stable ternary organic solar cells. **2021**, 8, 2335-2342	4
577	Structure, Electronic, and Charge Transfer Properties of Organic Photovoltaics from Density Functional Theory Methods. **2021**, 57-79	
576	Robotic arm controlled by Android app through Bluetooth connection for organic solarcell manipulation. 1032, 012049	
575	Polymer Based Photovoltaics. **2021**,	
574	A pyrrolopyridazinedione-based copolymer for fullerene-free organic solar cells. **2021**, 45, 1001-1009	2
573	Nanomaterials for advanced photovoltaic cells. **2021**, 239-258	0
572	Theoretical design of asymmetric A-DA'D-A type non-fullerene acceptors for organic solar cells. **2021**, 23, 12321-12328	3
571	Nanostructured gas sensors in smart manufacturing. **2021**, 445-485	
570	An All-Photonic Molecular Amplifier and Binary Flip-flop. **2021**, 12, 1236-1243	0

569	Nonhalogenated Solvent-Processed Thick-Film Ternary Nonfullerene Organic Solar Cells with Power Conversion Efficiency >13% Enabled by a New Wide-Bandgap Polymer. **2021**, 5, 2000787	8
568	Twisted-graphene-like perylene diimide with dangling functional chromophores as tunable small-molecule acceptors in binary-blend active layers of organic photovoltaics. **2021**, 9, 20510-20517	8
567	Importance of molecular rigidity on reducing the energy losses in organic solar cells: implication from geometric relaxations of A□D□A electron acceptors. **2021**, 5, 3903-3910	6
566	Prolongation of the singlet exciton lifetime of nonfullerene acceptor films by the replacement of the central benzene core with naphthalene. **2021**, 5, 2028-2035	0
565	Nonfullerene electron acceptors with electron-deficient units containing cyano groups for organic solar cells. **2021**, 5, 5549-5572	7
564	Indoor Organic Photovoltaics: Optimal Cell Design Principles with Synergistic Parasitic Resistance and Optical Modulation Effect. **2021**, 11, 2003103	29
563	Flexible-spacer incorporated polymer donors enable superior blend miscibility for high-performance and mechanically-robust polymer solar cells. **2021**, 14, 4067-4076	34
562	Efficient Organic Solar Cells from Molecular Orientation Control of M-Series Acceptors. **2021**, 5, 197-209	65
561	Structural similarity induced improvement in the performance of organic solar cells based on novel terpolymer donors. **2021**, 9, 9238-9247	9
560	Synthesis and photophysical properties of fluorine substituted end group for benzo[1, 2-b:4, 5-b□ diselenophene-based small molecule acceptor. **2021**, 261, 02026	
559	Characterising Exciton Generation in Bulk-Heterojunction Organic Solar Cells. **2021**, 11,	4
558	Synergistic Interplay between Asymmetric Backbone Conformation, Molecular Aggregation, and Charge-Carrier Dynamics in Fused-Ring Electron Acceptor-Based Bulk Heterojunction Solar Cells. **2021**, 13, 2961-2970	4
557	Organic solar cells defects classification by using a new feature extraction algorithm and an EBNN with an innovative pruning algorithm. **2021**, 36, 2443-2464	2
556	Molecular design revitalizes the low-cost PTV-polymer for highly efficient organic solar cells.. **2021**, 8, nwab031	35
555	Synthesis of Ring-Locked Tetracyclic Dithienocyclopentapyrans and Dibenzocyclopentapyran via 1,5-Hydride Shift and Copper-Catalyzed C-O Bond Formation for Nonfullerene Acceptors. **2021**, 23, 1692-1697	2
554	Experiment-Oriented Machine Learning of Polymer:Non-Fullerene Organic Solar Cells. **2021**, 31, 2011168	16
553	Restructuring and interlayer phenomenon on tandem architecture to improve organic solar cell behaviour. **2021**, 32, 7729-7738	0
552	Novel polymer acceptors achieving 10.18% efficiency for all-polymer solar cells. **2021**, 53, 63-68	15

551	Morphology optimization of photoactive layers in organic solar cells. **2021**, 2, e31	8
550	Degradation of Polymer Solar Cells: Knowledge Learned from the Polymer:Fullerene Solar Cells. **2021**, 9, 2000920	5
549	Alcohol-Soluble Zwitterionic 4-(Dimethyl(pyridin-2-yl)ammonio)butane-1-sulfonate Small Molecule as a Cathode Modifier for Nonfullerene Acceptor-Based Organic Solar Cells. **2021**, 13, 10222-10230	7
548	Efficient and Stable Nonfullerene Polymer Solar Cell Enabled by a Narrow-Bandgap, Nonplanar, Small-Molecule Acceptor with an Extended Main Chain. **2021**, 4, 4119-4128	2
547	Direct Arylation Polycondensation toward Water/Alcohol-Soluble Conjugated Polymers: Influence of Side Chain Functional Groups.. **2021**, 10, 419-425	3
546	Enhanced Charge Selectivity via Anodic-C Layer Reduces Nonradiative Losses in Organic Solar Cells. **2021**, 13, 12603-12609	1
545	Identifying the Trade-off between Intramolecular Singlet Fission Requirements in Donor–Acceptor Copolymers. **2021**, 33, 2567-2575	5
544	Recent advances of carbazole-based nonfullerene acceptors: Molecular design, optoelectronic properties, and photovoltaic performance in organic solar cells. **2021**, 68, 1186-1196	3
543	Patterned Blade Coating Strategy Enables the Enhanced Device Reproducibility and Optimized Morphology of Organic Solar Cells. **2021**, 11, 2100098	16
542	Multifunctional molecular incorporation boosting the efficiency and stability of the inverted perovskite solar cells. **2021**, 488, 229449	4
541	Molecular Electron Acceptor Designed by Modulating Quinoidal-Resonance Effect for Organic Solar Cell Application. **2021**, 94, 929-936	1
540	Linear-Response and Nonlinear-Response Formulations of the Instantaneous Marcus Theory for Nonequilibrium Photoinduced Charge Transfer. **2021**, 17, 2065-2079	3
539	High-Efficiency Organic Photovoltaics using Eutectic Acceptor Fibrils to Achieve Current Amplification. **2021**, 33, e2007177	52
538	Crystallinity and Orientation Manipulation of Anthracene Diimide Polymers for All-Polymer Solar Cells. **2021**, 31, 2011049	4
537	Efficient Ternary Polymer solar cells based ternary active layer consisting of conjugated polymers and non-fullerene acceptors with power conversion efficiency approaching near to 15.5%. **2021**, 216, 217-224	9
536	Selenium-Substituted Non-Fullerene Acceptors: A Route to Superior Operational Stability for Organic Bulk Heterojunction Solar Cells. **2021**, 15, 7700-7712	14
535	Effect of alkyl side chains of twisted conjugated polymer donors on photovoltaic performance. **2021**, 218, 123475	3
534	How the Size and Density of Charge-Transfer Excitons Depend on Heterojunctions Architecture. **2021**, 125, 5458-5474	3

533	An Organic-Inorganic Hybrid Electrolyte as a Cathode Interlayer for Efficient Organic Solar Cells. **2021**, 60, 8526-8531	21
532	Side chain engineering of copolymers based on benzotriazole (BTA) and dithieno[2,3-d;2',3'-d']benzo[1,2-b;4,5-b']dithiophenes (DTBDT) enables a high PCE of 14.6. **2021**,	7
531	An Organic□norganic Hybrid Electrolyte as a Cathode Interlayer for Efficient Organic Solar Cells. **2021**, 133, 8607-8612	1
530	High-Efficiency Digital Inkjet-Printed Non-Fullerene Polymer Blends Using Non-Halogenated Solvents. **2021**, 2, 2000086	6
529	Recent progress of PM6:Y6-based high efficiency organic solar cells. **2021**, 23, 100921	25
528	Antioxidant Additive with a High Dielectric Constant for High Photo-Oxidative Stabilization of Organic Solar Cells without Almost Sacrificing Initial High Efficiencies. **2021**, 5, 2000812	5
527	Manipulating Crystallization Kinetics of Conjugated Polymers in Nonfullerene Photovoltaic Blends toward Refined Morphologies and Higher Performances. **2021**, 54, 4030-4041	6
526	Novel High-Efficiency Polymer Acceptors via Random Ternary Copolymerization Engineering Enables All-Polymer Solar Cells with Excellent Performance and Stability. **2021**, 13, 17892-17901	4
525	Synthesis and photovoltaic performance of a non-fullerene acceptor comprising siloxane-terminated alkoxyl side chain. **2021**, 91, 106087	5
524	Ternary organic solar cells with PCEs of up to 16.6% by two complementary acceptors working in alloy-like model. **2021**, 91, 106085	6
523	Understanding the Effect of Sequential Deposition Processing for High-Efficient Organic Photovoltaics to Harvest Sunlight and Artificial Light. **2021**, 13, 20405-20416	7
522	Importance of Terminal Group Pairing of Polymer Donor and Small-Molecule Acceptor in Optimizing Blend Morphology and Voltage Loss of High-Performance Solar Cells. **2021**, 31, 2100870	15
521	Pressure and thermal annealing effects on the photoconversion efficiency of polymer solar cells. **2021**, 11, 045304	
520	Impact of Hole Blocking Layer on the Performance of Solution-Processed Small Molecule Solar Cells. **2021**,	1
519	Effects of the PENTACENE as doping material on the power conversion efficiency of P3HT:PCBM based ternary organic solar cells. **2021**, 607, 412859	3
518	High-Efficiency Organic Solar Cells Based on a Low-Cost Fully Non-Fused Electron Acceptor. **2021**, 31, 2101742	32
517	Bevel Structure Based XPS Analysis as a Non-Destructive Chemical Probe for Complex Interfacial Structures of Organic Semiconductors.. **2021**, 5, e2001264	1
516	Indacenodithiophene (IDT) and indacenodithienothiophene (IDTT)-based acceptors for non-fullerene organic solar cells. **2021**, 274, 116736	3

515	Brominated Small-Molecule Acceptors with a Simple Non-fused Framework for Efficient Organic Solar Cells. **2021**, 4, 4805-4814	1
514	Morphology Evolution Induced by Sequential Annealing Enabling Enhanced Efficiency in All-Small Molecule Solar Cells. **2021**, 4, 4234-4241	4
513	Technical Challenges and Perspectives for the Commercialization of Solution-Processable Solar Cells. **2021**, 6, 2000960	18
512	Conducting Silicone-Based Polymers and Their Application. **2021**, 26,	4
511	An Efficiency of 16.46% and a Lifetime of Over 4000 h for the PM6:Y6 Inverted Organic Solar Cells Enabled by Surface Acid Treatment of the Zinc Oxide Electron Transporting Layer. **2021**, 13, 17869-17881	26
510	Polymorphism in Non-Fullerene Acceptors Based on Indacenodithienothiophene. **2021**, 31, 2103784	15
509	Non-fullerene acceptors with branched side chains and improved molecular packing to exceed 18% efficiency in organic solar cells. **2021**, 6, 605-613	457
508	Fluorination Enables Tunable Molecular Interaction and Photovoltaic Performance in Non-Fullerene Solar Cells Based on Ester-Substituted Polythiophene. **2021**, 9, 687996	4
507	High Efficiency Organic Photovoltaics with a Thick (300 nm) Bulk Heterojunction Comprising a Ternary Composition of a PFT Polymer□PC71BM Fullerene□IT4F Nonfullerene Acceptor. **2021**, 4, 5274-5285	4
506	Near-infrared absorbing non-fullerene acceptors with unfused D-A-D core for efficient organic solar cells. **2021**, 92, 106131	0
505	Fabrication of hollow TiO2 nanospheres for high-capacity and long-life lithium storage. **2021**, 27, 3365	0
504	Theoretical Study of Excited State Charge Transfer Characteristics based on A□D□A and A□DA?D□A Type Nonfullerene Acceptors. **2021**, 125, 10250-10259	8
503	Recent progress of Y-series electron acceptors for organic solar cells.	10
502	Enhanced Static and Dynamic Properties of Highly Miscible Fullerene-Free Green-Selective Organic Photodetectors. **2021**, 13, 25164-25174	5
501	Elucidating End-Group Modifications of Carbazole-Based Nonfullerene Acceptors in Indoor Applications for Achieving a PCE of over 20. **2021**, 13, 26247-26255	3
500	A Wide Bandgap Polymer Donor Composed of Benzodithiophene and Oxime-Substituted Thiophene for High-Performance Organic Solar Cells. **2021**, 13, 26441-26450	6
499	A highly crystalline non-fullerene acceptor enabling efficient indoor organic photovoltaics with high EQE and fill factor. **2021**, 5, 1231-1245	25
498	Simultaneous Optimization of Donor/Acceptor Pairs and Device Specifications for Nonfullerene Organic Solar Cells Using a QSPR Model with Morphological Descriptors. **2021**, 12, 4980-4986	7

497	Impact of Acceptor Quadrupole Moment on Charge Generation and Recombination in Blends of IDT-Based Non-Fullerene Acceptors with PCE10 as Donor Polymer. **2021**, 11, 2100839	6
496	Organic Solar Cells with 18% Efficiency Enabled by an Alloy Acceptor: A Two-in-One Strategy. **2021**, 33, e2100830	136
495	Efficient Charge Transport Enables High Efficiency in Dilute Donor Organic Solar Cells. **2021**, 12, 5039-5044	14
494	Comparing Donor- and Acceptor-Originated Exciton Dynamics in Non-Fullerene Acceptor Blend Polymeric Systems. **2021**, 13,	0
493	Molecular Properties and Aggregation Behavior of Small-Molecule Acceptors Calculated by Molecular Simulation. **2021**, 6, 14467-14475	1
492	Computational Identification of Novel Families of Nonfullerene Acceptors by Modification of Known Compounds. **2021**, 12, 5009-5015	6
491	Fluorination on electron-deficient units of benzothiadiazole-based donor-acceptor conjugated polymers for novel fullerene-based organic solar cells. **2021**, 220, 864-872	2
490	Push or Pull Electrons: Acetoxy and Carbomethoxy-Substituted Isomerisms in Organic Solar Cell Acceptors. **2021**, 12, 4666-4673	7
489	Studies of photoexcitations in polymer/non-fullerene blend for high-efficiency organic solar cells. **2021**, 118, 202109	0
488	Over 1 cm2 flexible organic solar cells. **2021**, 42, 050301	11
487	Nonfullerene Small Molecules-Enabled High-Performance Organic Photovoltaics for Indoor Energy Harvesting. **2021**, 2, 2100041	1
486	Optimization of the Personalized Service System of University Library Based on Internet of Things Technology. **2021**, 2021, 1-10	1
485	Fullerene–non-fullerene hybrid acceptors for enhanced light absorption and electrical properties in organic solar cells. **2021**, 20, 100651	5
484	Synergistic enhancement of charge generation and transfer in organic solar cells via a separate PbS quantum dot layer. **2021**, 93, 106150	0
483	Recent advances of interface engineering for non-fullerene organic solar cells. **2021**, 93, 106141	8
482	Modulation of terminal alkyl chain length enables over 15% efficiency in small-molecule organic solar cells. **2021**, 64, 1200-1207	7
481	Efficient Hole Transfer via Delocalized Excited State in Small Molecular Acceptor: A Comparative Study on Photodynamics of PM6:Y6 and PM6:ITIC Organic Photovoltaic Blends. **2021**, 31, 2102764	8
480	Small Exciton Binding Energies Enabling Direct Charge Photogeneration Towards Low-Driving-Force Organic Solar Cells. **2021**, 133, 15476-15481	4

479	Effect of alkylthiolated hetero-aromatic rings on the photovoltaic performance of benzodithiophene-based polymer/fullerene solar cells. **2021**, 276, 116756	0
478	Over 13% Efficient Organic Solar Cells Based on Low-Cost Pentacyclic A-DA?D-A-Type Nonfullerene Acceptor. **2021**, 5, 2100281	3
477	Dithieno[3',2':3,4;2'',3'':5,6]benzo[1,2-c][1,2,5]oxadiazole-based polymer donors with deep HOMO levels. **2021**, 42, 060501	6
476	Light trapping effect of metal nanoparticles adsorbed heterojunction AlGaN nanowires. **2021**, 20, 100775	
475	Evolution of stability enhancement in organo-metallic halide perovskite photovoltaics-a review. **2021**, 27, 102159	9
474	Dominant Effect of UV-Light-Induced Burn-in Degradation in Non-Fullerene Acceptor Based Organic Solar Cells. **2021**, 125, 12531-12540	2
473	Annealing effects on interdiffusion in layered FA-rich perovskite solar cells. **2021**, 11, 065327	7
472	A universal Urbach rule for disordered organic semiconductors. **2021**, 12, 3988	17
471	Small Exciton Binding Energies Enabling Direct Charge Photogeneration Towards Low-Driving-Force Organic Solar Cells. **2021**, 60, 15348-15353	32
470	Small-molecule acceptors with long alkyl chains for high-performance as-cast nonfullerene organic solar cells. **2021**, 93, 106167	3
469	Electron-Accepting Conjugated Compound Containing Cyano-Substituted Naphthobisthiadiazole as Nonfullerene Acceptor in Organic Solar Cells. **2021**, 53, 3390-3396	0
468	Asymmetric Isomer Effects in Benzo[c][1,2,5]thiadiazole-Fused Nonacyclic Acceptors: Dielectric Constant and Molecular Crystallinity Control for Significant Photovoltaic Performance Enhancement. **2021**, 31, 2104369	15
467	Non-fullerene acceptors with nitrogen-containing six-membered heterocycle cores for the applications in organic solar cells. **2021**, 225, 111046	7
466	Reducing Non-Radiative Voltage Losses by Methylation of Push-Pull Molecular Donors in Organic Solar Cells. **2021**, 14, 3622-3631	3
465	Modulation of energy levels and vertical charge transport in polythiophene through copolymerization of non-fluorinated and fluorinated units for organic indoor photovoltaics. **2021**, 190, 109292	1
464	Miscibility Control by Tuning Electrostatic Interactions in Bulk Heterojunction for Efficient Organic Solar Cells. **2021**, 3, 1276-1283	8
463	Enhanced light trapping in GaN thin films with Al nanoparticles for photocathode applications. **2021**, 269, 115158	2
462	Operating Temperature of Nonfullerene Acceptor-Based Bulk Heterojunction Organic Solar Cells. **2021**, 218, 2100255	

461	Characteristics of Non-Fullerene Acceptor-Based Organic Photovoltaic Active Layers Using X-ray Scattering and Solid-State NMR. **2021**, 125, 15863-15871	1
460	Triplet exciton formation for non-radiative voltage loss in high-efficiency nonfullerene organic solar cells. **2021**, 5, 1832-1844	30
459	End-capped engineering of bipolar diketopyrrolopyrrole based small electron acceptor molecules for high performance organic solar cells. **2021**, 1201, 113242	20
458	Interaction of epoxy-based hydrogels and water: A molecular dynamics simulation study. **2021**, 106, 107915	1
457	Organic solar cells based on small molecule donor and polymer acceptor. **2021**,	2
456	SbTeSe Monolayers: Promising 2D Semiconductors for Highly Efficient Excitonic Solar Cells. **2021**, 6, 20590-20597	3
455	Optimizing the Alkyl Side-Chain Design of a Wide Band-Gap Polymer Donor for Attaining Nonfullerene Organic Solar Cells with High Efficiency Using a Nonhalogenated Solvent. **2021**, 33, 5981-5990	6
454	Fluorination strategy enables greatly improved performance for organic solar cells based on polythiophene derivatives. **2021**, 32, 2274-2278	11
453	The influence of fluorinated position on the performance of isoindigo-based polymer solar cells. **2021**, 277, 116768	1
452	Solution-Processed Silver Nanowire as Flexible Transparent Electrodes in Organic Solar Cells. **2021**, 39, 2315-2329	6
451	Over 13.8% efficiency of organic solar cells fabricated by air-processable spontaneously spreading process through water temperature control. **2021**, 85, 105982	5
450	Non-fullerene acceptor photostability and its impact on organic solar cell lifetime. **2021**, 2, 100498	9
449	Fine-Tuning Aggregation of Nonfullerene Acceptor Enables High-Efficiency Organic Solar Cells. **2021**, 2, 2100055	3
448	Performance Enhancement of Organic Solar Cells by Adding a Liquid Crystalline Molecule in Cathode and Anode Interlayers. **2021**, 13, 35639-35646	2
447	Synergetic Effect of Side-Chain Engineering of Polymer Donors and Conformation Tuning of Small-Molecule Acceptors on Molecular Properties, Morphology, and Photovoltaic Performance. **2021**, 4, 8117-8129	2
446	Modulating the middle and end-capped units of A2-A1-D-A1-A2 type non-fullerene acceptors for high VOC organic solar cells. **2021**, 95, 106195	1
445	Asymmetric Glycolated Substitution for Enhanced Permittivity and Ecocompatibility of High-Performance Photovoltaic Electron Acceptor. **2021**, 1, 1733-1742	8
444	Completely non-fused electron acceptor with 3D-interpenetrated crystalline structure enables efficient and stable organic solar cell. **2021**, 12, 5093	48

443	Unassisted Photoelectrochemical Cell with Multimediator Modulation for Solar Water Splitting Exceeding 4% Solar-to-Hydrogen Efficiency. *Journal of the American Chemical Society*, **2021**, 143, 12499-12508	164 41
442	Nature of Local Charge Carrier Motions in Porphyrin-Based Bulk Heterojunction Films Revealed by Time-Resolved Optical Pump-Terahertz Probe Spectroscopy.	0
441	Progress in Organic Solar Cells: Materials, Physics and Device Engineering. **2021**, 39, 2607-2625	8
440	A scientometric review of trends in solar photovoltaic waste management research. **2021**, 224, 545-562	9
439	Ti-Oxo Clusters with Peripheral Alkyl Groups as Cathode Interlayers for Efficient Organic Solar Cells. **2021**, 13, 39671-39677	5
438	Influence of thiophene and furan π-bridge on the properties of poly(benzodithiophene-alt-bis(π-bridge)pyrrolopyrrole-1,3-dione) for organic solar cell applications. **2021**, 229, 123991	5
437	Ultrafast Kinetics Investigation of a Fluorinated-Benzothiadiazole Polymer with an Increased Excited State Transition Dipole Moment Applied in Organic Solar Cells. **2021**, 4, 9627-9638	6
436	Cold-Aging and Solvent Vapor Mediated Aggregation Control toward 18% Efficiency Binary Organic Solar Cells. 2102000	22
435	Modulating Chlorination Position on Polymer Donors for Highly Efficient Nonfullerene Organic Solar Cells. **2021**, 5, 2100510	2
434	Microwave-Assisted Synthesis of Non-Fullerene Acceptors and Their Photovoltaic Studies for High-Performance Organic Solar Cells. **2021**, 4, 9816-9826	1
433	A Benzobis(thiazole)-Based Wide Bandgap Polymer Donor Enables over 15% Efficiency Organic Photovoltaics with a Flat Energetic Offset. **2021**, 54, 7862-7869	3
432	Efficient tuning of small acceptor chromophores with A1-π-A2-π-A1 configuration for high efficacy of organic solar cells via end group manipulation. **2021**, 25, 101305	11
431	Effect of Ester Side Chains on Photovoltaic Performance in Thiophene-Thiazolothiazole Copolymers. **2021**, 94, 2019-2027	4
430	Donor–Acceptor-Type Organic-Small-Molecule-Based Solar-Energy-Absorbing Material for Highly Efficient Water Evaporation and Thermoelectric Power Generation. 2106247	6
429	Mechanism of the Photodegradation of A-D-A Acceptors for Organic Photovoltaics*. **2021**, 60, 24833-24837	6
428	Small molecule organic solar cells toward improved stability and performance for Indoor Light Harvesting Application. **2021**, 230, 111265	6
427	Nanoscale heterogeneous distribution of surface energy at interlayers in organic bulk-heterojunction solar cells. **2021**,	5
426	Fine-Tuning the Photovoltaic Performance of Organic Solar Cells by Collaborative Optimization of Structural Isomerism and Halogen Atom. 2100138	

425	Theoretical Insights into Optoelectronic Properties of Non-Fullerene Acceptors for the Design of Organic Photovoltaics.	2
424	Diminished Trap-Induced Leakage Current at the Organic/Electrode Interface for High-Performance Organic Photodetectors. **2021**, 3, 4073-4080	0
423	Emerging Chemistry in Enhancing the Chemical and Photochemical Stabilities of Fused-Ring Electron Acceptors in Organic Solar Cells. 2106735	9
422	Recent advances of organometallic complexes in emerging photovoltaics.	0
421	Deciphering the role of invited guest bridges in non-fullerene acceptor materials for high performance organic solar cells. **2021**, 279, 116865	10
420	Contrasting Effect of Side-Chain Placement on Photovoltaic Performance of Binary and Ternary Blend Organic Solar Cells in Benzodithiophene-Thiazolothiazole Polymers. **2021**, 14, 5032-5041	2
419	Synergistic effect of solvent and solid additives on morphology optimization for high-performance organic solar cells. **2021**, 64, 2017	3
418	Designing Well-Organized Donor-Bridge-Acceptor Conjugated Systems Based on Cyclopentadithiophene as Donors in Bulk Heterojunction Organic Solar Cells: DFT-Based Modeling and Calculations.	
417	Facile Modification of a Noncovalently Fused-Ring Electron Acceptor Enables Efficient Organic Solar Cells. **2021**, 13, 45806-45814	5
416	PCDTBT8-Doped PffBT4T-2OD-Based Ternary Solar Cells with Enhanced Open-Circuit Voltage, Fill Factor, and Charge Separation Efficiency. 2100670	4
415	Mechanism of the Photodegradation of A-D-A Acceptors for Organic Photovoltaics**.	0
414	Highly crystalline acceptor materials based on benzodithiophene with different amount of fluorine substitution on alkoxyphenyl conjugated side chains for organic photovoltaics. **2021**, 1, 100059	0
413	The potential of SWCNTs to extend the IR-absorption of silicon solar cells. **2021**, 184, 828-835	5
412	Influence of the terminal group on optoelectronic properties of fused-ring nonfullerene acceptors with ethylhexyl side chain. **2021**, 194, 109635	1
411	The optimization of π-bridge for trialkylsilyl substituted D-π-A photovoltaic polymers. **2021**, 194, 109609	3
410	Methyl red/lead sulphide/indium tin oxide hybrid organic/inorganic diode: An electrical and optoelectronic study. **2021**, 618, 413142	0
409	Easily synthesized pyrene-based nonfullerene acceptors for efficient organic solar cells. **2021**, 281, 116904	0
408	Impact of fluorination on photovoltaic performance in high thermo- and photo-stability perylene diimide-based nonfullerene small molecular acceptors. **2021**, 121, 111593	0

407	Benzyl side-chain engineering of non-fullerene acceptors for efficient organic solar cells. **2021**, 195, 109706	0
406	Fused-ring acceptors based on quinoxaline unit for highly efficient single-junction organic solar cells with low charge recombination. **2021**, 98, 106282	2
405	Tuning the optoelectronic properties of scaffolds by using variable central core unit and their photovoltaic applications. **2021**, 782, 139018	14
404	Near-infrared small molecule acceptors based on 4H-cyclopenta[1,2-b:5,4-b']dithiophene units for organic solar cells. **2021**, 196, 109801	1
403	Naphthalene-fused octacyclic electron-donating central core constructs non-fullerene acceptors for organic solar cells. **2021**, 425, 130618	1
402	Photophysics and solar cell application of a benzodithiophene conjugated polymer containing cyclometalated platinum units. **2021**, 8, 100060	1
401	18.4% efficiency achieved by the cathode interface engineering in non-fullerene polymer solar cells. **2021**, 41, 101289	13
400	An A-D-D-A-type small-molecule electron acceptor with chlorine substitution for high-efficiency polymer solar cells. **2021**, 99, 106329	
399	Highly stable inverted non-fullerene OSCs by surface modification of SnO2 with an easy-accessible material. **2021**, 426, 131583	2
398	Boosting photovoltaic performance of ternary organic solar cells by integrating a multi-functional guest acceptor. **2021**, 90, 106538	16
397	Low-bandgap nonfullerene acceptor based on thieno[3,2-b]indole core for highly efficient binary and ternary organic solar cells. **2022**, 427, 131674	10
396	N-alkyl chain modification in dithienobenzotriazole unit enabled efficient polymer donor for high-performance non-fullerene solar cells. **2022**, 66, 382-389	4
395	Calculation aided miscibility manipulation enables highly efficient polythiophene:nonfullerene photovoltaic cells. **2021**, 64, 478-487	24
394	Binary non-fullerene-based polymer solar cells with a 430 nm thick active layer showing 15.39% efficiency and 73.38% fill factor. **2021**, 9, 7129-7136	14
393	Optimization of active layer morphology by small-molecule donor design enables over 15% efficiency in small-molecule organic solar cells. **2021**, 9, 13653-13660	9
392	A small molecule acceptor with a heptacyclic benzodi(thienocyclopentafuran) central unit achieving 13.4% efficiency in polymer solar cells with low energy loss. **2021**, 9, 2744-2751	6
391	V enhancement of thienobenzofuran and benzotriazole backboned photovoltaic polymer by side chain sulfuration or fluoridation. **2021**, 184, 108775	1
390	Optimized active layer morphology via side-chain atomic substituents to achieve efficient and stable all-polymer solar cells. **2021**, 9, 9515-9523	3

389	Low-Bandgap Non-fullerene Acceptors Enabling High-Performance Organic Solar Cells. **2021**, 6, 598-608	75
388	Impact of space charge polarization on light-soaking phenomena in non-fullerene organic solar cells. **2021**, 9, 7214-7221	
387	Highly efficient ITO-free organic solar cells with a column-patterned microcavity. **2021**, 14, 3010-3018	10
386	A metal chelation strategy suppressing chemical reduction between PEDOT and polyethylenimine for a printable low-work function electrode in organic solar cells. **2021**, 9, 3918-3924	4
385	Investigation analysis of optoelectronic and structural properties of cis- and trans-structures of azo dyes: density functional theory study. **2021**, 34, e4183	3
384	Theoretical design of low bandgap donor-acceptor (D-A) monomers for polymer solar cells: DFT and TD-DFT study. **2021**, 24, 123-135	3
383	Bromination and increasing the molecular conjugation length of the non-fullerene small-molecule acceptor based on benzotriazole for efficient organic photovoltaics.. **2021**, 11, 13571-13578	2
382	Alkoxy substitution on IDT-Series and Y-Series non-fullerene acceptors yielding highly efficient organic solar cells. **2021**, 9, 7481-7490	14
381	1,1-Dicyanomethylene-3-Indanone End-Cap Engineering for Fused-Ring Electron Acceptor-Based High-Performance Organic Photovoltaics. **2021**, 2, 100292	12
380	High performance as-cast P3HT:PCBM devices: understanding the role of molecular weight in high regioregularity P3HT. **2021**, 2, 2045-2054	5
379	Engineering polymer solar cells: advancement in active layer thickness and morphology.	7
378	Theoretical studies of optoelectronic and photovoltaic properties of D-A polymer monomers by Density Functional Theory (DFT). **2021**, 24, 224-237	2
377	Nonfullerene acceptors for P3HT-based organic solar cells. **2021**, 9, 18857-18886	21
376	A chlorinated copolymer donor demonstrates a 18.13% power conversion efficiency. **2021**, 42, 010501	81
375	An indacenodithiophene core moiety for organic solar cells.	1
374	Strategically Manipulated Polymer Solar Cells to Incorporate Plasmonically Enhanced Spectral Upconversion Backplane. **2020**, 8, 2000466	2
373	The Influence of Solvent Additive on Polymer Solar Cells Employing Fullerene and Non-Fullerene Acceptors. **2018**, 4, 1700358	46
372	Improvement of Photovoltaic Performance of Polymer Solar Cells by Rational Molecular Optimization of Organic Molecule Acceptors. **2018**, 8, 1800815	29

371	Side-Chain Impact on Molecular Orientation of Organic Semiconductor Acceptors: High Performance Nonfullerene Polymer Solar Cells with Thick Active Layer over 400 nm. **2018**, 8, 1800856	104
370	Recent Progress and Challenges toward Highly Stable Nonfullerene Acceptor-Based Organic Solar Cells. **2021**, 11, 2003002	59
369	PV Microgrids Efficiency: From Nanomaterials and Semiconductor Polymer Technologies for PV Cells to Global MPPT Control for PV Arrays. **2020**, 289-325	1
368	Recent Advances in Solar Cells. **2020**, 79-122	6
367	Asymmetric indenothienothiophene-based unfused core for A-D-A type nonfullerene acceptors. **2020**, 180, 108495	3
366	Insight into the effects of alkoxy side chain position in nonfullerene electron acceptors on the morphological stability of organic solar cells. **2020**, 181, 108562	6
365	Spin-coated 10.46% and blade-coated 9.52% of ternary semitransparent organic solar cells with 26.56% average visible transmittance. **2020**, 204, 660-666	18
364	Material insights and challenges for non-fullerene organic solar cells based on small molecular acceptors. **2018**, 3, 720-731	580
363	Efficient polymer solar cells based on a cathode interlayer of dicyanomethylenated indacenodithiophene derivative with large □conjugation and electron-deficient properties. **2018**, 6, 57-65	7
362	Isomeric effect of fluorene-based fused-ring electron acceptors to achieve high-efficiency organic solar cells. **2020**, 8, 5315-5322	23
361	Structure dependent photostability of ITIC and ITIC-4F. **2020**, 1, 2846-2861	13
360	Aggregation of non-fullerene acceptors in organic solar cells. **2020**, 8, 15607-15619	51
359	Recent progress in ternary organic solar cells based on solution-processed non-fullerene acceptors. **2020**, 8, 23096-23122	24
358	Isomerizing thieno[3,4-b]thiophene-based near-infrared non-fullerene acceptors towards efficient organic solar cells. **2020**, 8, 4357-4364	9
357	Synergistic effect of CdSe quantum dots (QDs) and PCBM on ambient-air processed ZnO QDs/PCDTBT: PCBM:CdSe QDs/MoO based ternary organic solar cells. **2020**, 31, 465404	3
356	Quantitative predictions of photoelectron spectra in amorphous molecular solids from multiscale quasiparticle embedding. **2020**, 101,	5
355	Influence of side-chain length and geometry on the thermal expansion behavior and polymorphism of naphthalene diimide-based thin films. **2019**, 3,	6
354	How solar cell efficiency is governed by the □product. **2020**, 2,	10

353	Photovoltaic Properties of Electron-Accepting 2,2′-[2,2′-Arenediylbis(11-oxoanthra[1,2-b]thiophene-6-ylidene)]dipropanedinitriles. **2020**, 94, 1936-1942	1
352	Designing of 5,10-Dihydroindolo [3,2-b] Indole (DINI) Based Donor Materials for Small Molecule Organic Solar Cells. **2021**, 20, 71-84	7
351	Tandem organic solar cells containing plasmonic nanospheres and nanostars for enhancement in short circuit current density. **2019**, 27, 31599-31620	5
350	Benzothiadiazole-based conjugated polyelectrolytes for interfacial engineering in optoelectronic devices. **2019**, 91, 477-488	4
349	Flexible, Large-Area Organic Solar Cells With Improved Performance Through Incorporation of CoFe2O4 Nanoparticles in the Active Layer. **2019**, 22,	2
348	A triazatruxene-based molecular dyad for single-component organic solar cells. 2, 3	3
347	A Multi-Source Harvesting System Applied to Sensor-Based Smart Garments for Monitoring Workers□Bio-Physical Parameters in Harsh Environments. **2020**, 13, 2161	13
346	Impact of symmetry-breaking of non-fullerene acceptors for efficient and stable organic solar cells. **2021**, 12, 14083-14097	6
345	Preparing polythiophene derivative with alternating alkyl and thioalkyl side chains via Kumada coupling for efficient organic solar cells.	0
344	Designs and understanding of small molecule-based non-fullerene acceptors for realizing commercially viable organic photovoltaics. **2021**, 12, 14004-14023	4
343	Finely modulated asymmetric nonfullerene acceptors enabling simultaneously improved voltage and current for efficient organic solar cells.	
342	Low-cost materials for organic solar cells. **2021**, 9, 15395-15406	11
341	Regulation of Molecular Orientations of A□D□A Nonfullerene Acceptors for Organic Photovoltaics: The Role of End-Group □Stacking. 2108551	5
340	Tuning the optoelectronic properties of ZOPTAN core-based derivatives by varying acceptors to increase efficiency of organic solar cell. **2021**, 27, 316	9
339	Alkylsilyl Fused Ring-Based Polymer Donor for Non-Fullerene Solar Cells with Record Open Circuit Voltage and Energy Loss. **2021**, 17, e2104451	2
338	A wide-bandgap copolymer donor with a 5-methyl-4H-dithieno[3,2-e:2′,3′-g]isoindole-4,6(5H)-dione unit. **2021**, 42, 100502	2
337	Ultrafast Structure and Vibrational Dynamics of a Cyano-Containing Non-Fullerene Acceptor for Organic Solar Cells Revealed by Two-Dimensional Infrared Spectroscopy. **2021**, 125, 11987-11995	
336	Electron-deficient TVT unit-based D-A polymer donor for high-efficiency thick-film OSCs. **2021**, 33,	0

335	Recent Progress in Advanced Organic Photovoltaics: Emerging Techniques and Materials.	1
334	New Electron Acceptor with End-Extended Conjugation for High-Performance Polymer Solar Cells.	2
333	Molecular engineering of indenoindene-3-ethylrodanine acceptors with A2-A1-D-A1-A2 architecture for promising fullerene-free organic solar cells. **2021**, 11, 20320	6
332	Efficiency enhancement of organic solar cell using surface plasmon resonance effects of Ag nanoparticles. **2021**, 53, 1	0
331	Triarylborane-BODIPY conjugate: An efficient non-fullerene electron acceptor for bulk heterojunction organic solar cell. **2021**, 230, 242-249	3
330	Comparative Investigation of Binary and Ternary Donor-Acceptor Conjugated Polymer for Photovoltaic Application. **2018**, 08, 1-10	
329	Strategies for high current densities in non-fullerene acceptors based organic solar cells. **2018**,	
328	A New Method for the Synthesis of Bromine-Containing Heterocyclic Compounds for Photovoltaic Polymers. **2019**, 41	
327	Consideration of Carrier Generation and Power Generation Mechanism of Conductive Polymer Solar Cells. **2020**, 19, 172-174	
326	Organic Triads for Solar Cells Application: A Review. **2020**, 24, 658-672	
325	Polymer Solar Cells Manipulated with Selectively Transparent Electrodes for Plasmonic Upconversion-Assisted Photovoltaics. **2020**,	
324	Index matching in multilayered organic waveguides. **2020**, 32, 485702	1
323	Application of organic photovoltaic materials (OPV) as greenhouse roof structures: A review. **2020**, 1, 1-5	
322	Near-infrared Materials: The Turning Point of Organic Photovoltaics. **2021**, e2107330	13
321	Alkyl-Chain Branching of Non-Fullerene Acceptors Flanking Conjugated Side Groups toward Highly Efficient Organic Solar Cells. **2021**, 11, 2102596	19
320	Synthesis and Photovoltaics of Novel 2,3,4,5-Tetrathienylthiophene-co-poly(3-hexylthiophene-2,5-diyl) Donor Polymer for Organic Solar Cell. **2020**, 13,	0
319	Dithienopyrrole-based Organic Electroactive Materials and Their Photovoltaic Aspects. **2020**, 24, 2695-2736	
318	Solution-processable silicon naphthalocyanine tetraimides as near infrared electron acceptors in organic solar cells. **2022**, 197, 109846	0

317	Simple-structure small molecular acceptors based on a benzodithiophenedione core: synthesis, optoelectronic and photovoltaic properties.	0
316	Thiophenes and Their Benzo Derivatives: Applications. **2020**, 613-613	
315	Dual non-fullerene acceptors based high efficiency ternary organic solar cells. **2020**, 69, 198801	1
314	Revealing the Influence of Annealing Treatment on the Performance of Non-Fullerene Organic Photovoltaics. **2021**,	
313	Density functional theory study of donor□cceptor conjugated polymers with substituent effect. **2021**, 28, 1	
312	High-efficiency organic solar cells enabled by an alcohol-washable solid additive. 1	7
311	Efficient Organic Solar Cells Enabled by Chlorinated Nonplanar Small Molecules.	3
310	Observing halogen-bond-assisted electron transport in high-performance polymer solar cells. **2021**, 119, 183302	1
309	Asymmetric Non-Fullerene Small-Molecule Acceptors toward High-Performance Organic Solar Cells. **2021**, 7, 1787-1797	9
308	Efficient Synthesis of □Conjugated Organic Molecules Utilizing Cross-Coupling Reactions and Application to Electronic Devices. **2020**, 78, 867-874	
307	Influence of Polymer Aggregation and Liquid Immiscibility on Morphology Tuning by Varying Composition in PffBT4T-2DT/Non-Fullerene Organic Solar Cells. **2020**, 10,	
306	ITIC derivative acceptors for ternary organic solar cells: fine-tuning of absorption bands, LUMO energy levels, and cascade charge transfer.	3
305	The evolution of small molecular acceptors for organic solar cells: Advances, challenges and prospects. **2022**, 198, 109963	2
304	Synthesis, Properties, and Photovoltaic Characteristics of Arch- and S-shaped Naphthobisthiadiazole-based Acceptors. **2021**, 34, 285-290	1
303	Pronounced Backbone Coplanarization by □Extension in a Sterically Hindered Conjugated Polymer System Leads to Higher Photovoltaic Performance in Non-Fullerene Solar Cells. **2021**, 13, 56420-56429	1
302	Increasing donor-acceptor spacing for reduced voltage loss in organic solar cells. **2021**, 12, 6679	7
301	A wearable organic photovoltaic-thermoelectric (OPV-TE) hybrid generator to minimize the open-circuit voltage losses of OPV module. **2021**, 93, 106775	2
300	Effect of Terminal-Group Halogenation of Naphthalene-Based Nonfullerene Acceptors on Their Film Structure and Photophysical and Photovoltaic Properties.	0

299	Near-Infrared Absorbing Nonfullerene Acceptors for Organic Solar Cells. 2100868	1
298	Reconsidering the Roles of Noncovalent Intramolecular Locks in Conjugated Molecules.	2
297	Doping Approaches for Organic Semiconductors. **2021**,	26
296	Molecular engineering of non-fullerene acceptors based on thiophene-fused end groups for fullerene-free organic solar cells. **2021**, 109987	0
295	Ladder-Type Fused Benzodithiophene Extended along the Short-Axis Direction as a New Donor Building Block for Efficient Organic Solar Cells. **2021**, 13, 57693-57702	0
294	Domain modulation and energetic disorder in ternary bulk-heterojunction organic solar cells. **2021**, 102, 106376	0
293	Oxygen Reduction Activity of B<-N-Containing Organic Molecule Affected by Asymmetric Regulation. **2021**, e2105524	5
292	A New End Group on Nonfullerene Acceptors Endows Efficient Organic Solar Cells with Low Energy Losses. 2108614	13
291	A Polymer Donor with Versatility for Fabricating High-Performance Ternary Organic Photovoltaics. **2021**, 431, 133950	4
290	Conditions for efficient charge generation preceded by energy transfer process in non-fullerene organic solar cells. **2021**, 9, 27568-27585	2
289	Mechanism study on organic ternary photovoltaics with 18.3% certified efficiency: from molecule to device.	13
288	Versatile third components in organic ternary solar cells. **2022**, 231, 732-757	0
287	Non-fullerene acceptors with direct and indirect hexa-fluorination afford >17% efficiency in polymer solar cells.	8
286	TiO2 nanoparticles via simple surface modification as cathode interlayer for efficient organic solar cells. **2022**, 101, 106422	0
285	Solid-solvent hybrid additive for the simultaneous control of the macro- and micro-morphology in non-fullerene-based organic solar cells. **2022**, 93, 106878	9
284	Ternary organic solar cells: A review of the role of the third element. **2022**, 94, 106915	14
283	Theoretical Study of Non-Fullerene Acceptors Using End-Capped Groups with Different Electron-Withdrawing Abilities toward Efficient Organic Solar Cells.. **2022**, 916-922	1
282	Introduction of amorphous TiO2 coating layer to improve the lithium storage of SiO2 nanospheres anode. **2022**, 28, 1081	1

281	Recent Advances in Hole-Transporting Layers for Organic Solar Cells.. **2022**, 12,	4
280	Coordination-Induced Defects Elimination of SnO 2 Nanoparticles via a Small Electrolyte Molecule for High-Performance Inverted Organic Solar Cells. 2102031	3
279	Non-Volatile Perfluorophenyl-Based Additive for Enhanced Efficiency and Thermal Stability of Nonfullerene Organic Solar Cells via Supramolecular Fluorinated Interactions. 2103702	7
278	Ultrafast Kinetics of Chlorinated Polymer Donors: A Faster Excitonic Dissociation Path.. **2022**,	3
277	Effect of Quencher, Geometry, and Light Outcoupling on the Determination of Exciton Diffusion Length in Nonfullerene Acceptors. 2100822	
276	Energetics of the charge generation in organic donor-acceptor interfaces.. **2022**, 156, 024104	1
275	High-throughput screening of blade coated polymer:polymer solar cells: solvent determines achievable performance.. **2021**,	2
274	Molecular optimization of incorporating pyran fused acceptor□donor□cceptor type acceptors enables over 15% efficiency in organic solar cells. **2022**, 10, 1977-1983	1
273	Donor moieties with D-□a framing modulated electronic and nonlinear optical properties for non-fullerene-based chromophores.. **2022**, 12, 4209-4223	3
272	Simultaneously Achieving Highly Efficient and Stable Polymer:Non-Fullerene Solar Cells Enabled By Molecular Structure Optimization and Surface Passivation.. **2022**, e2104588	4
271	Two-dimensional perovskites: Impacts of species, components, and properties of organic spacers on solar cells. **2022**, 43, 101394	8
270	Organic electronics: an overview of key materials, processes, and devices. **2022**, 3-71	
269	Solvent tuning of the active layer morphology of non-fullerene based organic solar cells.	2
268	Novel perylene diimides for improved photophysical and electrochemical properties. **2022**, 17, 2675-2675	0
267	Review□onjugated Polymer Photovoltaic Materials: Performance and Applications of Organic Semiconductors in Photovoltaics.	0
266	Novel Conjugated Polymers Based on Cyclopenta[C]Thiophene-4,6(5h)-Dione for Efficient Polymer Solar Cells.	0
265	Photo induced Force Microscopy: chemical spectroscopy beyond the diffraction limit.	1
264	Selection of side groups on simple non-fullerene acceptors for the application in organic solar cells: From flexible to rigid.	

263	Revealing Donor–Acceptor Interaction on the Printed Active Layer Morphology and the Formation Kinetics for Nonfullerene Organic Solar Cells at Ambient Conditions. 2103977	3
262	Effect of the Terminal Acceptor Unit on the Performance of Non-Fullerene Indacenodithiophene Acceptors in Organic Solar Cells.. **2022**, 27,	0
261	Manipulating molecular aggregation and crystalline behavior of A-DA'D-A type acceptors by side chain engineering in organic solar cells.	1
260	Large-Area Flexible Organic Solar Cells. **2022**, 405-453	0
259	Binding Energy of Triplet Excitons in Nonfullerene Acceptors: The Effects of Fluorination and Chlorination.. **2022**, 126, 1393-1402	0
258	Electron-Donating Ladder-Type Heteroacenes for Photovoltaic Applications: From Polymer Donor Materials to Small-Molecule Acceptor Materials. **2022**, 215-239	
257	Chlorinated Organic Solar Cells. **2022**, 241-273	
256	Quantum chemical designing of novel fullerene-free acceptor molecules for organic solar cell applications.. **2022**, 28, 67	4
255	Tailoring microstructure and morphology via sequential fluorination to enhance the photovoltaic performance of low-cost polymer donors for organic solar cells.. **2022**, e2200070	0
254	Random Copolymerization Strategy for Host Polymer Donor PM6 Enables Improved Efficiency Both in Binary and Ternary Organic Solar Cells.. **2022**,	
253	Isomeric Nonfullerene Acceptors: Planar Conformation Leading to a Higher Efficiency.	0
252	Infrared Organic Photodetectors Employing Ultralow Bandgap Polymer and Non-Fullerene Acceptors for Biometric Monitoring.. **2022**, e2200580	3
251	Non-fullerene based Inverted Organic Photovoltaic Device with Long-Term Stability.	0
250	High-Performance Ternary Semitransparent Polymer Solar Cells with Different Bandgap Third Component as Non-Fullerene Guest Acceptor. 2200070	
249	Single-bond-linked oligomeric donors for high performance organic solar cells. **2022**,	
248	Important Role of Alloyed Polymer Acceptor for High Efficiency and Stable Large-area Organic Photovoltaics. **2022**, 107187	2
247	Twisted A-D-A Type Acceptors with Thermally-Activated Delayed Crystallization Behavior for Efficient Nonfullerene Organic Solar Cells. 2103957	0
246	A Sustainable Synthetic Approach to the Indaceno[1,2-b:5,6-b?]dithiophene (IDT) Core through Cascade Cyclization–Deprotection Reactions. **2022**, 4, 206-215	1

245	Trifluoromethyl Substituted Derivatives of Pyrazoles as Materials for Photovoltaic and Electroluminescent Applications. **2022**, 12, 434	1
244	Influence of Peripheral Modification of Electron Acceptors in Nonfullerene (O-IDTBR1)-Based Derivatives on Nonlinear Optical Response: DFT/TDDFT Study.. **2022**, 7, 11631-11642	0
243	Tuning Acceptor Composition in Ternary Organic Photovoltaics: Impact of Domain Purity on Non-Radiative Voltage Losses. 2103735	4
242	Recent Progress in Indacenodithiophene-Based Acceptor Materials for Non-Fullerene Organic Solar Cells.. **2022**, 380, 18	2
241	Finetuning Hole-Extracting Monolayers for Efficient Organic Solar Cells.. **2022**,	2
240	Molecular Insight into Efficient Charge Generation in Low-Driving-Force Nonfullerene Organic Solar Cells.. **2022**,	10
239	Recent Progress in Organic Solar Cells: A Review on Materials from Acceptor to Donor.. **2022**, 27,	4
238	M-Series Nonfullerene Acceptors with Varied Fluorinated End Groups: Crystal Structure, Intermolecular Interaction, Charge Transport, and Photovoltaic Performance. 2200119	0
237	Stability, optoelectronic and thermal properties of two-dimensional janus TeS.. **2022**,	4
236	Terminal alkyl chain tuning of small molecule donor enables optimized morphology and efficient all-small-molecule organic solar cells. **2022**, 200, 110147	1
235	Bithienopyrroledione-based polymeric donors for efficient fullerene- and non-fullerene-based organic photovoltaic cells. **2022**, 200, 110176	0
234	Correlation between molecular configuration and charge transfer dynamics in highly efficient organic solar cells. **2022**, 532, 231351	0
233	End-capped modification of Y-Shaped dithienothiophen[3,2-b]-pyrrolobenzothiadiazole (TPBT) based non-fullerene acceptors for high performance organic solar cells by using DFT approach. **2022**, 30, 101875	10
232	Dual-functional ambipolar non-fused ring electron acceptor as third component and designing similar molecular structure between two acceptors for high-performance ternary organic solar cells. **2022**, 98, 107186	3
231	Unique W-Shape Y6 isomer as effective solid additive for High-Performance PM6:Y6 polymer solar cells. **2022**, 440, 135975	2
230	Role of Electronic States and Their Coupling on Radiative Losses of Open-Circuit Voltage in Organic Photovoltaics. **2021**,	2
229	Recent progress in cathode interlayer materials for non-fullerene organic solar cells. **2022**, 4,	5
228	Fabrication of Large-Area Uniform Nanometer-Thick Functional Layers and Their Stacks for Flexible Quantum Dot Light-Emitting Diodes.. **2022**, 6, e2101030	0

227	15.71% Efficiency All-Small-Molecule Organic Solar Cells Based on Low-Cost Synthesized Donor Molecules. **2022**, 32, 2110159	8
226	Direct Evidence of the Internal Deterioration Mechanism due to Molecular Chain Ends in Polymer Solar Cells by Operando Spin Detection. **2022**, 4, 607-617	0
225	Recent progress in organic solar cells (Part I material science). **2022**, 65, 224-268	48
224	References. **2021**, 317-358	
223	Exploring Charge Transport in High-Temperature Polymorphism of ITIC Derivatives in Simple Processed Unipolar Bottom Contact Organic Field-Effect Transistor. **2022**, 8, 2100743	1
222	Functional Ligand-Decorated ZnO Nanoparticles as Cathode Interlayers for Efficient Organic Solar Cells. **2022**, 5, 1291-1297	4
221	Large-Area Organic Solar Modules with Efficiency Over 14%. 2110209	10
220	Engineering Non-fullerene Acceptors as a Mechanism to Control Film Morphology and Energy Loss in Organic Solar Cells.	3
219	Layer-by-Layer and Non-halogenated Solvent Processing of Benzodithiophene-Free Simple Polymer Donors for Organic Solar Cells. **2022**, 136515	1
218	Data_Sheet_1.docx. **2018**,	
217	Table_1.docx. **2020**,	
216	Table_1.DOCX. **2018**,	
215	Data_Sheet_1.docx. **2019**,	
214	Table_1.DOCX. **2018**,	
213	Data_Sheet_1.pdf. **2018**,	
212	Data_Sheet_1.DOCX. **2020**,	
211	Data_Sheet_1.docx. **2019**,	
210	Efficient designing of half-moon-shaped chalcogen heterocycles as non-fullerene acceptors for organic solar cells.. **2022**, 28, 125	2

209	Structure-property relationship on insertion of Fluorine versus Nitrogen-substituents in wide bandgap polymer donors for non-fullerene solar cells: An interesting case study.		1
208	Synergistic end-capped engineering on non-fused thiophene ring-based acceptors to enhance the photovoltaic properties of organic solar cells.. **2022**, 12, 12321-12334		5
207	Terminal groups play an important role in enhancing the performance of organic solar cells based on non-fused electron acceptors.		0
206	Two-dimensional benzo[1,2-b : 4,5-b?]difurans as donor building blocks for the formation of novel donor□cceptor copolymers.		0
205	Enhancing the Photovoltaic Performance of Chlorobenzene-Cored Unfused Electron Acceptors by Introducing ´S□□O´Noncovalent´Interaction.		
204	Halogen-free Polymer Donors Based on 3,4-Dicyanothiophene for High-performance Polymer Solar Cells. 1		0
203	Heteroheptacene-based acceptors with thieno[3,2-b]pyrrole yield high-performance polymer solar cells.		6
202	Over 30% Efficient Indoor Organic Photovoltaics Enabled by Morphological Modification Using Two Compatible Non-Fullerene Acceptors. 2200275		2
201	Controllable Anion Doping of Electron Acceptors for High-Efficiency Organic Solar Cells. **2022**, 7, 1764-1773		2
200	High-Performance Organic Solar Modules via the Bilayer-Merged-Annealing Assisted Blading Coating.. **2022**, e2110569		5
199	Benzo[1,2-b:4,5-b?]dithiophene-Based Conjugated Polymers for Highly Efficient Organic Photovoltaics.		5
198	Fluorinated phenanthrenequinoxaline-based D-A type copolymers for non-fullerene polymer solar cells. **2022**, 250, 124867		
197	Theoretical study of the structure-activity relationship of the S-shaped acceptor molecules for organic solar cell applications. **2022**, 148, 106763		1
196	PTB7:PC71BM bulk heterojunction solar cells exhibiting 9.64% efficiency via adopting moderate polarity solvent vapor annealing treatment. 1-11		0
195	Ionic Dopant-Free Polymer Alloy Hole Transport Materials for High-Performance Perovskite Solar Cells.. *Journal of the American Chemical Society*, **2022**,	16.4	8
194	The Intrinsic Role of the Fusion Mode and Electron-Deficient Core in Fused-Ring Electron Acceptors for Organic Photovoltaics.		0
193	2D/1A ternary blend system enables non-fused ring electron acceptor based polymer solar cells with improved photovoltaic parameters. **2022**, 107, 106562		
192	The effects of electronic structures of two non-fullerene systems on their photovoltaic performances. **2022**, 28,		

191	The Intrinsic Role of the Fusion Mode and Electron-Deficient Core in Fused-Ring Electron Acceptors for Organic Photovoltaics.	
190	Enhancing the Photovoltaic Performance of Chlorobenzene-Cored UnFused Electron Acceptors by Introducing S□O Noncovalent Interaction. **2022**, 137375	1
189	Complex multilength-scale morphology in organic photovoltaics. **2022**,	1
188	Non-halogenated solvent processable wide bandgap polymer based on carboxylate-substituted benzodithiophene for high-efficiency polymer solar cells. **2022**, 204, 110459	
187	Theoretical Investigation by Dft and Tddft the Extension Of□Conjugation of Novel Carbazole-Based Donor Materials for Bulk Heterojunction Organic Solar Cell Applications.	
186	Photoinduced intra- and inter-molecular charge transfer dynamics in organic small molecules with intra-molecular push-pull electronic structure.	2
185	Recent advances in small molecular design for high performance non-fullerene organic solar cells.	1
184	Isomerization of Asymmetric Ladder-Type Heteroheptacene-Based Small-Molecule Acceptors Improving Molecular Packing: Efficient Nonfullerene Organic Solar Cells with Excellent Fill Factors. 2203200	3
183	Noncovalent Interactions Induced by Fluorination of the Central Core Improve the Photovoltaic Performance of A-D-A?-D-A-Type Nonfused Ring Acceptors.	3
182	End Group Engineering Enabling Organic Solar Cells with High Open-Circuit Voltage.	
181	Effects of Oxygen Position in the Alkoxy Substituents on the Photovoltaic Performance of A-DA?D-A Type Pentacyclic Small Molecule Acceptors. 2373-2381	3
180	Perovskite-based Tandem Solar Cells. **2022**, 303-334	1
179	Stable Open-Shell IC-Fused Fluorenyl Enabling Efficient Photothermal Conversion. 2200400	1
178	Research progress of large-area organic solar cells. **2022**,	
177	Machine Learning-Assisted Polymer Design for Improving the Performance of Non-Fullerene Organic Solar Cells.	1
176	Evaluation of the hydrocarbon source rock and the reservoir characterization of the Minagish Formation using wireline logs. **2022**, e09797	0
175	Achieving 19% Power Conversion Efficiency in Planar-Mixed Heterojunction Organic Solar Cells Using a Pseudo-Symmetric Electron Acceptor. 2202089	32
174	Molecular Modeling of Pentacyclic Aromatic Bislactam-Based Small Donor Molecules by Altering Auxiliary End-Capped Acceptors to Elevate the Photovoltaic Attributes of Organic Solar Cells. **2022**, 7, 20528-20541	

173	Modulating the nanoscale morphology on carboxylate-pyrazine containing terpolymer toward 17.8% efficiency organic solar cells with enhanced thermal stability. **2022**, 446, 137424	2
172	Peripheral Halogenation Engineering Controls Molecular Stacking to Enable Highly Efficient Organic Solar Cells.	9
171	Application of indacenodiselenophene central core and modulation of terminal group interaction for high-efficient P3HT-based organic solar cells. **2022**, 10, 10114-10123	1
170	A?ADAA? extended small-molecule photovoltaic donor based on fluorene-diketopyrrolopyrrole with an end-group fluorination effect.	1
169	Simple High-Performance Nonfused Ring Electron Acceptors With Well-Controlled Terminal Group Stacking.	
168	Fluorination and chlorination effects on the charge transport properties of the IDIC non-fullerene acceptor: an ab-initio investigation. **2022**, 13, 15	
167	Investigation of charge transfer between donor and acceptor for small-molecule organic solar cells by scanning tunneling microscopy and ultrafast transient absorption spectroscopy.	
166	NIR Photodetectors with Highly Efficient Detectivity Enabled by 2D Fluorinated Dithienopicenocarbazole-Based Ultra-Narrow Bandgap Acceptors. 2204255	3
165	Revealing the Unusual Efficiency Enhancement of Organic Solar Cells with Polymer-Donor-Treated Cathode Contacts.	0
164	Strong Intermolecular Interactions Induced by High Quadrupole Moments Enable Excellent Photostability of Non-Fullerene Acceptors for Organic Photovoltaics. 2201267	1
163	Deep learning for development of organic optoelectronic devices: efficient prescreening of hosts and emitters in deep-blue fluorescent OLEDs. **2022**, 8,	0
162	Revealing aggregation of non-fullerene acceptors in intermixed phase by ultraviolet-visible absorption spectroscopy. **2022**, 100983	0
161	Two-dimensional CSiO and CGeO: direct-band-gap semiconductors with normal/anomalous auxeticity for solar cells and alkali-metal-ion batteries. **2022**, 34, 365301	
160	Novel conjugated polymers based on cyclopenta[c]thiophene-4,6(5H)-dione for efficient polymer solar cells. **2022**, 542, 231737	0
159	Simple Sn-based coordination complex as cathode interlayer for efficient organic solar cells. **2022**, 108, 106577	
158	Structural modification on Dimethoxythienothiophene based non-fullerene acceptor molecule for construction of high-performance organic chromophores by employing DFT approach. **2022**, 110906	6
157	Ester-Functionalized 1,1-Dicyanomethylene-3-indanone End-Capped Nonfullerene Acceptors for High-Performance, Annealing-Free Organic Solar Cells. **2022**, 14, 33614-33625	0
156	Improved Predictions of Organic Photovoltaic Performance through Machine Learning Models Empowered by Artificially Generated Failure Data.	0

155	Perylene Diimide-Fused Dithiophenepyrroles with Different End Groups as Acceptors for Organic Photovoltaics. **2022**, 14, 37990-38003	3
154	Double-Side Selective Spectral Response Organic Photodetectors for Demultiplexing Optical Signals. **2022**, 14, 34926-34936	1
153	The principles, design and applications of fused-ring electron acceptors.	21
152	Renewed Prospects for Organic Photovoltaics.	25
151	Investigation of the Cretaceous total petroleum system using wireline logs, core, and geochemical data in Bahrah Field, Northern Basin, Kuwait.	0
150	Large-area Flexible Organic Solar Cells: Printing Technologies and Modular Design.	2
149	An integrated source rock potential, sequence stratigraphy, and petroleum geology of (Agbada-Akata) sediment succession, Niger delta: application of well logs aided by 3D seismic and basin modeling.	0
148	A Random Terpolymer Donor with Similar Monomers Enables 18.28% Efficiency Binary Organic Solar Cells with Well Polymer Batch Reproducibility. 3045-3057	7
147	Wide Bandgap Conjugated Polymers Based on Difluorobenzoxadiazole for Efficient Non-Fullerene Organic Solar Cells. 2200591	1
146	Quantifying Squaraine Phase Separation, Aggregate Populations, and Solar Cell Performance with a Correlated Multimethod Approach.	0
145	Nonfullerene acceptors with cyano-modified terminal groups for organic solar cells: Effect of substitution position on photovoltaic properties. **2022**, 206, 110661	
144	Photoinduced spin-orbital coupling effect at donor: acceptor interface in non-fullerene organic solar cells. **2022**, 109, 106613	
143	Role of novel carbon-oxygen-bridged Z-shaped non-fullerene acceptors for high efficiency organic solar cells. **2022**, 290, 117159	0
142	Flexible solar and thermal energy conversion devices: Organic photovoltaics (OPVs), organic thermoelectric generators (OTEGs) and hybrid PV-TEG systems. **2022**, 29, 101614	0
141	Recent advances of non-fullerene organic solar cells: From materials and morphology to devices and applications.	1
140	Semi-transparent fullerene-based tandem solar cells with excellent light utilization efficiency enabled by careful selection of sub-cells. **2022**, 109, 106633	0
139	A near-infrared acceptor incorporating selenium heterocycles for efficient semi-transparent photovoltaics and sensitive photodetectors. **2022**, 110, 106642	0
138	15.51 % efficiency all-small-molecule organic solar cells achieved by symmetric thiazolyl substitution. **2022**, 103, 107801	4

137	Recent advances of nonfullerene acceptors in organic solar cells. **2022**, 103, 107802	2
136	Organic photovoltaic cells offer ultrahigh VOC of ~ 1.2 V under AM 1.5G light and a high efficiency of 21.2 % under indoor light. **2023**, 451, 139080	2
135	An acceptor with an asymmetric and extended conjugated backbone for high-efficiency organic solar cells with low nonradiative energy loss. **2022**, 10, 16714-16721	1
134	A meta-alkylthio-phenyl Chain Substituted Small Molecule Donor as the Third Component for High-Efficiency Organic Solar Cells.	3
133	Ultrahigh energy storage performance of all-organic dielectrics at high-temperature by tuning the density and location of traps.	0
132	Over 17% efficiency all-small-molecule organic solar cells based on an organic molecular donor employing a 2D side chain symmetry breaking strategy.	8
131	Optimized Molecular Aggregation and Photophysical Process Synergistically Promoted Photovoltaic Performance in Low Regularity Benzo[c][1,2,5]thiadiazole-based Medium Bandgap Copolymers via Modulating Bridges.	2
130	Low energy loss (0.42 eV) and efficiency over 15% enabled by non-fullerene acceptors containing N-bis(trifluoromethyl)phenylbenzotriazole as the core in binary solar cells. **2022**, 10, 13174-13182	1
129	A Near-Infrared Acceptor Incorporating Selenium Heterocycles for Efficient Semi-Transparent Photovoltaics and Sensitive Photodetectors.	0
128	Bulk heterojunction organic photovoltaic cells based on DA type BODIPY small molecules as non-fullerene acceptors. **2022**, 10, 12776-12788	1
127	Isomerization of two-dimensional non-fullerene electron acceptor materials for developing high-performance organic solar cells. **2022**, 10, 11286-11295	0
126	Ultrafast Charge Injection Dynamics in Conjugated Zinc Porphyrin and Fullerene bulk heterojunction blend. **2022**,	0
125	Quantifying triplet formation in conjugated polymer/non-fullerene acceptor blends.	1
124	Effects of the rigid and sterically bulky structure of non-fused nonfullerene acceptors on transient photon-to-current dynamics. **2022**, 10, 20035-20047	0
123	Binary Alloy of Functionalized Small-Molecule Acceptors of ADA′DA Structure for Ternary-Blend Photovoltaics Displaying High Open-Circuit Voltages and Efficiencies.	3
122	Mechanical Properties of Solar Cell Structures. **2022**,	0
121	Multicomponent Solar Cells with High Fill Factors and Efficiencies Based on Non-Fullerene Acceptor Isomers. **2022**, 27, 5802	0
120	Organic Solar Cells at Stratospheric Condition for High Altitude Platform Station Application.	0

119	Nucleation Front Proliferation in Bi-modal PCBM Crystals and a Crystal Fan Axial Morphological Transition..	0
118	Electron Transport Layer Optimization for Efficient PTB7:PC70BM Bulk-Heterojunction Solar Cells. **2022**, 14, 3610	3
117	Nucleation Front Proliferation in Bi-modal PCBM Crystals, the spherulite axial transition.	0
116	Delving of a Promising Bioemulsifier Producing Bacterium from an Oil Contaminated Coastal Site and its Enhanced Production. **2022**, 19, 727-735	0
115	Tuning the Molecular Packing of Low-Cost Non-Fullerene Acceptors via Asymmetric Terminal Groups. **2022**, 5, 11283-11291	0
114	Recent advances in bulk-heterojunction solar cells: A Review.	1
113	Computational Design of Crescent Shaped Promising Nonfullerene Acceptors with 1,4-Dihydro-2,3-quinoxalinedione Core and Different Electron-withdrawing Terminal Units for Photovoltaic Applications.	0
112	Tetracyanobutadiene Bridged Push-Pull Chromophores: Development of New Generation Optoelectronic Materials.	0
111	Fluorine-Substituted Bridge through a Simple Method for Efficient Polymer Donor. 2200697	0
110	A step-by-step strategy to enhancing the photovoltaic performance of indandione-based polymers. **2022**, 207, 110760	0
109	Opportunities and challenges for machine learning to Select Combination of Donor and Acceptor Materials for Efficient organic solar cells.	0
108	Organic Photovoltaic Devices. **2022**, 131-176	0
107	Organic photovoltaic performance and structural relationship of non-fullerene small molecule acceptors based on tetraarylphenazine core and perylene diimide.	0
106	Optimal bulk morphology via side-chain engineering on non-fullerene acceptor for efficient organic solar cells.	0
105	Estimating donor:acceptor compatibility for polymer solar cells through nonfused-ring acceptors with benzoxadiazole core and different halogenated terminal groups.	0
104	Dependency of Current Generated Upon Thermal Treatment Duration in Non-fullerene Organic Solar Cells. **2022**,	0
103	Fluorination enhances NIR-II emission and photothermal conversion efficiency of phototheranostic agents for imaging-guided cancer therapy. 2208229	1
102	Y-Series-Based Polymer Acceptors for High-Performance All-Polymer Solar Cells in Binary and Non-binary Systems. 3835-3854	4

101	Improvement of photovoltaic-related parameters through bromination and the role of chlorine, bromine, iodine, and dehalogenation in the fluorinated Y6 small molecule.	0
100	Revealing the Crystalline Packing Structure of Y6 in the Active Layer of Organic Solar Cells: The Critical Role of Solvent Additives.	0
99	Recent progress in solution-processed flexible organic photovoltaics. **2022**, 6,	0
98	Toward High-Performance Quinoxaline Based Non-fullerene Small Molecule Acceptors for Organic Solar Cells.	0
97	Theoretical investigation by DFT and TDDFT the extension of conjugation of novel carbazole-based donor materials for bulk heterojunction organic solar cell applications. **2022**, 28,	0
96	Simple Approach for Synthesizing a Fluorinated Polymer Donor Enables Promoted Efficiency in Polymer Solar Cells.	0
95	Cloud-based Library Management and Book Tracking through the Internet of Things. **2022**, 4, 234-243	0
94	An extensive XPS analysis on sensitized PBDB-T-SF thin films for photovoltaic applications. **2022**, 33, 104619	0
93	Surface tailored Ti-oxo clusters enabling highly efficient organic solar cells. **2023**, 454, 140002	0
92	Homojunction Doping for Efficient Hole Extraction in Polymer Solar Cells.	0
91	Improving the Photovoltaic Performance of Dithienobenzodithiophene-Based Polymers via Addition of an Additional Eluent in the Soxhlet Extraction Process.	0
90	Enabling Donor:Acceptor Bicontinuous Networks via Short Contacts in Double-Cable Polymers with Pendant Rylene Diimides.	0
89	New Method for Preparing ZnO Layer for Efficient and Stable Organic Solar Cells. 2208305	1
88	New Non-Fullerene Acceptor with Extended Conjugation of Cyclopenta [2,1-b:3,4-b] Dithiophene for Organic Solar Cells. **2022**, 27, 7615	0
87	Conjugated Starbursts with Acceptor Donor Acceptor Architectures as Nonfullerene Acceptors for High-Efficiency Organic Solar Cells.	1
86	Exploring the fluorination effect mechanism on charge transport in organic solar cells. **2022**, 248, 160-170	0
85	Solution-processed and thickness-insensitive hole transport layer for high efficiency organic solar cells.	0
84	Theoretical design of two-dimensional AMInP2X3Y3 (AM = Li, Na, K; X/Y = S, Se, Te) monolayers for highly efficient excitonic solar cells.	0

83	Recent progress in flexible electrodes and textile shaped devices for organic solar cells.	0
82	Microscopic investigation into higher efficiency and stability of inverted organic solar cells compared to conventional cells.	0
81	Theoretical designing of non-fullerene derived organic heterocyclic compounds with enhanced nonlinear optical amplitude: a DFT based prediction. **2022**, 12,	0
80	Recent Progress in All-Small-Molecule Organic Solar Cells. 2205594	2
79	A Simple Nonfused Ring Electron Acceptor with a Power Conversion Efficiency Over 16%.	0
78	Toward Quantifying the Relation between Exciton Binding Energies and Molecular Packing. **2022**, 13, 11065-11070	2
77	High-Performance Ternary Organic Photovoltaics Incorporating Small-Molecule Acceptors with an Unfused-Ring Core. **2022**, 5, 15423-15433	0
76	Identifying the hydrocarbon potential from seismic, geochemical, and wireline data of the Sallum intra-basin, North Western Desert of Egypt. **2023**, 12, 1-18	0
75	Study on Optical Efficiency of Organic Photovoltaic Devices with Multi-Tip Metal Nanostructures. 421, 83-89	0
74	Fluorination of Terminal Groups Promoting Electron Transfer in Small Molecular Acceptors of Bulk Heterojunction Films. **2022**, 27, 9037	0
73	Simple non-fused ring electron acceptors with well-controlled terminal group stacking. **2022**, 3, 101169	1
72	Unsymmetrically Chlorinated Non-Fused Electron Acceptor Leads to High-Efficiency and Stable Organic Solar Cells.	0
71	Molecular Design of A-D-A Electron Acceptors Towards Low Energy Loss for Organic Solar Cells.	0
70	Incorporating a weak acceptor unit into PTB7-Th to tune the open circuit voltage for non-fullerene polymer solar cells. **2022**, 133214	0
69	Tetramethylammonium Iodide Additive for Enhancing the Charge Carrier Mobilities of Diketopyrrolopyrrole-Based Conjugated Polymer in Ambipolar Organic Field-Effect Transistors.	0
68	PdSe 2 Quantum Dots for Improving the Photovoltaic Performance of Nonfullerene Organic Solar Cells. 2200965	0
67	Enhanced High-temperature Energy Storage Performance of All-organic Composite Dielectric via Constructing Fiber Reinforced Structure.	0
66	Unsymmetrically Chlorinated Non-Fused Electron Acceptor Leads to High-Efficiency and Stable Organic Solar Cells.	0

65	Photovoltaic Properties of Conjugated Polymers Based on Fused Cyclic Imide and Amide Skeletons.	0
64	Effects of Mixed Halogenation on the Performance of Non-Fullerene Acceptors in All-Small Molecule Organic Solar Cells.	0
63	Organic Solar Cells: Physical Principle and Recent Advances.	0
62	Efficient Organic Solar Cells Based on Terpolymer Donors via a Monomer-Ratio Insensitive Side-Chain Hybridization Strategy.	0
61	Synthesis of naphtho[1,2-d:5,6-d']bis([1,2,3]triazole)-based wide-bandgap alternating copolymers for polymer solar cells and field-effect transistors.	0
60	Synthesis and application of dual electron-deficient featured copolymers and their sequential fluorination for ambipolar organic thin film transistors.	1
59	Rational design of the S, N-heteroacene-based nonfullerene by introducing the fluorine atom for efficient high-performance organic solar cells.	0
58	Polymer Solar Cells with Active Layer Thickness Compatible with Scalable Fabrication Processes: A Meta-Analysis. 2210146	1
57	Green-Light Wavelength-Selective Organic Solar Cells Based on Poly(3-hexylthiophene) and Naphthobisthiadiazole-Containing Acceptors toward Agrivoltaics.	0
56	Terminal Groups of Nonfullerene Acceptors: Design and Application.	0
55	Cyano-Capped Molecules: Versatile Organic Materials.	1
54	Synergistic effects of ultrasonication and the addition of a nucleating agent on improving the crystallization and performance of P3HT. **2023**, 114, 106733	0
53	Asymmetric non-fullerene acceptor based on a cyclohexane side chain for efficient organic solar cell. **2023**, 114, 106737	0
52	A Mini Review on the Development of Conjugated Polymers: Steps towards the Commercialization of Organic Solar Cells. **2023**, 15, 164	2
51	Medium Bandgap Polymers for Efficient Non-Fullerene Polymer Solar Cells: An In-Depth Study of Structural Diversity of Polymer Structure. **2023**, 24, 522	0
50	Quinoxaline-based Polymers with Asymmetric Aromatic Side Chain Enables 16.27% Efficiency for Organic Solar Cells.	0
49	Recent Developments of Polymer Solar Cells with Photovoltaic Performance over 17%. 2213324	1
48	Quantitative Relationships between Film Morphology, Charge Carrier Dynamics, and Photovoltaic Performance in Bulk-Heterojunction Binary vs Ternary Acceptor Blends.	0

47	New high-performance QTAIM algorithms: From organic photovoltaics to catalyst materials. **2023**, 37-51	0
46	Natural Materials for Sustainable Organic Solar Cells: Status and Challenge. 2213910	0
45	In situ Near-Ambient Pressure X-ray Photoelectron Spectroscopy Reveals the Effects of Water, Oxygen and Light on the Stability of PM6:Y6 photoactive layers..	0
44	Mechanically Stable Flexible Organic Photovoltaics with Silver Nanomesh for Indoor Applications. **2023**, 15, 5378-5386	0
43	Rational Design of Non-Fullerene Acceptors via Side-Chain and Terminal Group Engineering: A Computational Study.	0
42	Monomer morphology selection rules for an accurate design of bulk heterojunction: An updated theoretical account.	0
41	Small molecule-based organic solar cells. **2023**, 97-122	0
40	A newly designed benzodithiophene building block: tuning of the torsional barrier for non-halogenated and non-aromatic solvent-processible photovoltaic polymers. **2023**, 11, 7053-7065	0
39	Ambipolar charge transport in a non-fullerene acceptor. **2023**, 11, 021105	0
38	Benzothiadiazole-based materials for organic solar cells. **2023**, 108438	0
37	Exploration of photovoltaic behavior of benzodithiophene based non-fullerene chromophores: first theoretical framework for highly efficient photovoltaic parameters. **2023**, 24, 1882-1896	0
36	Impact of side-chain engineering on quantum efficiency and voltage losses in organic solar cells. **2023**, 465, 142909	0
35	Overview on Different Types of Solar Cells: An Update. **2023**, 13, 2051	0
34	Thienoquinolinone-based acceptor-□acceptor-type building block for polymer donors in organic solar cells. **2023**, 31, 25-31	0
33	Miscibility driven morphology modulation in ternary solar cells. **2023**, 11, 5037-5047	0
32	Novel Alcohol-Soluble Nitroxide Radical Conjugated Polymer for Cathode Modifier of Efficient Organic Solar Cells with Enhanced Stability.	0
31	Controlling Kinetic Quenching Depth Toward High-Performance and Photo-Stable Organic Solar Cells Printed from a Non-Halogenated Solvent. 2214361	0
30	A Review on Fullerene Derivatives with Reduced Electron Affinity as Acceptor Materials for Organic Solar Cells. **2023**, 16, 1924	2

29	Impact of donor halogenation on reorganization energies and voltage losses in bulk-heterojunction solar cells. **2023**, 16, 1277-1290	0
28	Effects of Different Lengths of Oligo (Ethylene Glycol) Side Chains on the Electrochromic and Photovoltaic Properties of Benzothiadiazole-Based Donor-Acceptor Conjugated Polymers. **2023**, 28, 2056	1
27	Interplay Between Conjugated Polymer Donors and Acceptors Determines Crystalline Order of Their Blends and Photovoltaic Performance. **2023**, 13,	0
26	Effects of Halogenation of Small-Molecule and Polymeric Acceptors for Efficient Organic Solar Cells. 2300712	0
25	Nitrofluorene-based ADA electron acceptors for organic photovoltaics.	0
24	In Situ Measurement of Evolving Excited-State Dynamics During Deposition and Processing of Organic Films by Single-Shot Transient Absorption. **2023**, 74,	0
23	18.7% Efficiency Ternary Organic Solar Cells Using Two Non-Fullerene Acceptors with Excellent Compatibility. **2023**, 6, 3126-3134	0
22	Role of Nonfullerene Acceptor Impurities and Purification on the Efficiency and Stability of Organic Photovoltaics. 2300047	0
21	Selenium-Based Nonfused Electron Acceptors for Efficient Organic Photovoltaic Cells. 2300095	0
20	Synthesis, Properties, and Photovoltaic Characteristics of Fluoranthenedione-containing Nonfullerene Acceptors for Organic Solar Cells. **2022**, 35, 187-191	0
19	Cyclization of Inner Linear Alkyl Chains in Fused-Ring Electron Acceptors Toward Efficient Organic Solar Cells. 2300067	0
18	Robust and hydrophobic interlayer material for efficient and highly stable organic solar cells. **2023**, 7, 545-557	0
17	Organic photovoltaics: The current challenges. **2023**, 158, 110901	0
16	Alkoxy- and Alkyl-Side-Chain-Functionalized Terpolymer Acceptors for All-Polymer Photovoltaics Delivering High Open-Circuit Voltages and Efficiencies. 2215095	0
15	N-Annulated Perylene Diimide Non-Fullerene Acceptors for Organic Photovoltaics. **2023**, 2, 151-178	0
14	The Dynamics of Delocalized Excitations in Organic Solar Cells with Nonfullerene Acceptors. **2023**, 14, 3031-3038	0
13	Enhancing photostability and power conversion efficiency of organic solar cells by a "sunscreen" ternary strategy. **2023**, 66, 1179-1189	0
12	Dithieno[3,2- f :2?,3?- h]quinoxaline-Based Photovoltaic–Thermoelectric Dual-Functional Energy-Harvesting Wide-Bandgap Polymer and its Backbone Isomer.	0

11	Balancing the Energy levels and Charge Mobility of the Conjugated Polymer PM6 by a Third Component to Enable Efficient Organic Solar Cells. **2023**, 8,	0
10	Triplet Homoleptic Iridium(III) Complex as a Potential Donor Material for Organic Solar Cells. **2023**, 62, 5920-5930	0
9	Half-Planar-Half-Twisted Small Molecule Acceptors for Efficient Polymer Solar Cells.	0
8	Side Chain Engineering of Two-Dimensional Polymeric Donors for High-Efficiency Organic Solar Cells. **2023**, 37, 6122-6128	0
7	Recent Progress in Large-Area Organic Solar Cells.	0
6	Comprehensive Understanding of Fluorination-Performance Relationship: The Best-Performed A-D-A-Type Acceptors. **2023**,	0
5	18.9% Efficiency Ternary Organic Solar Cells Enabled by Isomerization Engineering of Chlorine-Substitution on Small Molecule Donors.	0
4	Advances in organic photovoltaic cells: a comprehensive review of materials, technologies, and performance. **2023**, 13, 12244-12269	0
3	Non-Fullerene Acceptors with Benzodithiophene-Based Fused Planar Ring Cores for Organic Solar Cells.	0
2	Designing Electron-Deficient Diketone Unit Based Non-Fused Ring Acceptors with Amplified Optoelectronic Features for Highly Efficient Organic Solar Cells: A DFT Study. **2023**, 28, 3625	0
1	Dim Indoor Light Photovoltaic Performance Improvement of Y-Series Acceptor via Halogenation of Terminal Group. **2023**, 2023, 1-10	0