# Jianhui Hou

## List of Publications by Citations



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| 426 papers | 56,373 citations | 119 h-index | 229 g-index |
| 452 ext. papers | 63,926 ext. citations | 13.9 avg, IF | 8.27 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 426 | Polymer solar cells with enhanced open-circuit voltage and efficiency. *Nature Photonics*, **2009**, 3, 649-653 | 33.9 | 2870 |
| 425 | Molecular Optimization Enables over 13% Efficiency in Organic Solar Cells. *Journal of the American Chemical Society*, **2017**, 139, 7148-7151 | 16.4 | 2152 |
| 424 | Organic solar cells based on non-fullerene acceptors. *Nature Materials*, **2018**, 17, 119-128 | 27 | 1743 |
| 423 | Fullerene-Free Polymer Solar Cells with over 11% Efficiency and Excellent Thermal Stability. *Advanced Materials*, **2016**, 28, 4734-9 | 24 | 1507 |
| 422 | Energy-Level Modulation of Small-Molecule Electron Acceptors to Achieve over 12% Efficiency in Polymer Solar Cells. *Advanced Materials*, **2016**, 28, 9423-9429 | 24 | 1191 |
| 421 | Over 16% efficiency organic photovoltaic cells enabled by a chlorinated acceptor with increased open-circuit voltages. *Nature Communications*, **2019**, 10, 2515 | 17.4 | 1093 |
| 420 | Indene-C(60) bisadduct: a new acceptor for high-performance polymer solar cells. *Journal of the American Chemical Society*, **2010**, 132, 1377-82 | 16.4 | 1072 |
| 419 | Synthesis, characterization, and photovoltaic properties of a low band gap polymer based on silole-containing polythiophenes and 2,1,3-benzothiadiazole. *Journal of the American Chemical Society*, **2008**, 130, 16144-5 | 16.4 | 1051 |
| 418 | Single-Junction Organic Photovoltaic Cells with Approaching 18% Efficiency. *Advanced Materials*, **2020**, 32, e1908205 | 24 | 896 |
| 417 | Replacing alkoxy groups with alkylthienyl groups: a feasible approach to improve the properties of photovoltaic polymers. *Angewandte Chemie - International Edition*, **2011**, 50, 9697-702 | 16.4 | 882 |
| 416 | Over 14% Efficiency in Polymer Solar Cells Enabled by a Chlorinated Polymer Donor. *Advanced Materials*, **2018**, 30, e1800868 | 24 | 832 |
| 415 | Molecular Design of Benzodithiophene-Based Organic Photovoltaic Materials. *Chemical Reviews*, **2016**, 116, 7397-457 | 68.1 | 824 |
| 414 | Synthesis and photovoltaic properties of two-dimensional conjugated polythiophenes with bi(thienylenevinylene) side chains. *Journal of the American Chemical Society*, **2006**, 128, 4911-6 | 16.4 | 718 |
| 413 | Bandgap and Molecular Energy Level Control of Conjugated Polymer Photovoltaic Materials Based on Benzo[1,2-b:4,5-b?]dithiophene. *Macromolecules*, **2008**, 41, 6012-6018 | 5.5 | 675 |
| 412 | Synthesis of a low band gap polymer and its application in highly efficient polymer solar cells. *Journal of the American Chemical Society*, **2009**, 131, 15586-7 | 16.4 | 673 |
| 411 | Vertical Phase Separation in Poly(3-hexylthiophene): Fullerene Derivative Blends and its Advantage for Inverted Structure Solar Cells. *Advanced Functional Materials*, **2009**, 19, 1227-1234 | 15.6 | 628 |
| 410 | Molecular design toward highly efficient photovoltaic polymers based on two-dimensional conjugated benzodithiophene. *Accounts of Chemical Research*, **2014**, 47, 1595-603 | 24.3 | 624 |

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| 409 | Effects of Solvent Mixtures on the Nanoscale Phase Separation in Polymer Solar Cells. *Advanced Functional Materials*, **2008**, 18, 1783-1789 | 15.6 | 614 |
| 408 | Dual plasmonic nanostructures for high performance inverted organic solar cells. *Advanced Materials*, **2012**, 24, 3046-52 | 24 | 604 |
| 407 | Design, Synthesis, and Photovoltaic Characterization of a Small Molecular Acceptor with an Ultra-Narrow Band Gap. *Angewandte Chemie - International Edition*, **2017**, 56, 3045-3049 | 16.4 | 590 |
| 406 | A Large-Bandgap Conjugated Polymer for Versatile Photovoltaic Applications with High Performance. *Advanced Materials*, **2015**, 27, 4655-60 | 24 | 586 |
| 405 | 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 |
| 404 | Design, Application, and Morphology Study of a New Photovoltaic Polymer with Strong Aggregation in Solution State. *Macromolecules*, **2012**, 45, 9611-9617 | 5.5 | 555 |
| 403 | Over 14% Efficiency in Organic Solar Cells Enabled by Chlorinated Nonfullerene Small-Molecule Acceptors. *Advanced Materials*, **2018**, 30, e1800613 | 24 | 538 |
| 402 | Highly Efficient 2D-Conjugated Benzodithiophene-Based Photovoltaic Polymer with Linear Alkylthio Side Chain. *Chemistry of Materials*, **2014**, 26, 3603-3605 | 9.6 | 509 |
| 401 | Design rules for minimizing voltage losses in high-efficiency organic solar cells. *Nature Materials*, **2018**, 17, 703-709 | 27 | 500 |
| 400 | Over 17% efficiency ternary organic solar cells enabled by two non-fullerene acceptors working in an alloy-like model. *Energy and Environmental Science*, **2020**, 13, 635-645 | 35.4 | 462 |
| 399 | A polybenzo[1,2-b:4,5-b']dithiophene derivative with deep HOMO level and its application in high-performance polymer solar cells. *Angewandte Chemie - International Edition*, **2010**, 49, 1500-3 | 16.4 | 459 |
| 398 | Bandgap and Molecular Level Control of the Low-Bandgap Polymers Based on 3,6-Dithiophen-2-yl-2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione toward Highly Efficient Polymer Solar Cells. *Macromolecules*, **2009**, 42, 6564-6571 | 5.5 | 442 |
| 397 | A potential perylene diimide dimer-based acceptor material for highly efficient solution-processed non-fullerene organic solar cells with 4.03% efficiency. *Advanced Materials*, **2013**, 25, 5791-7 | 24 | 407 |
| 396 | Small-Molecule Acceptor Based on the Heptacyclic Benzodi(cyclopentadithiophene) Unit for Highly Efficient Nonfullerene Organic Solar Cells. *Journal of the American Chemical Society*, **2017**, 139, 4929-4934 | 16.4 | 404 |
| 395 | Fine-Tuned Photoactive and Interconnection Layers for Achieving over 13% Efficiency in a Fullerene-Free Tandem Organic Solar Cell. *Journal of the American Chemical Society*, **2017**, 139, 7302-7309 | 16.4 | 399 |
| 394 | Design and Synthesis of a Low Bandgap Small Molecule Acceptor for Efficient Polymer Solar Cells. *Advanced Materials*, **2016**, 28, 8283-8287 | 24 | 373 |
| 393 | High efficiency polymer solar cells based on poly(3-hexylthiophene)/indene-C70 bisadduct with solvent additive. *Energy and Environmental Science*, **2012**, 5, 7943 | 35.4 | 364 |
| 392 | Synergistic effect of fluorination on molecular energy level modulation in highly efficient photovoltaic polymers. *Advanced Materials*, **2014**, 26, 1118-23 | 24 | 360 |

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| 391 | A star-shaped perylene diimide electron acceptor for high-performance organic solar cells. *Advanced Materials*, **2014**, 26, 5137-42 | 24 | 352 |
| 390 | Silicon atom substitution enhances interchain packing in a thiophene-based polymer system. *Advanced Materials*, **2010**, 22, 371-5 | 24 | 340 |
| 389 | Eco-Compatible Solvent-Processed Organic Photovoltaic Cells with Over 16% Efficiency. *Advanced Materials*, **2019**, 31, e1903441 | 24 | 318 |
| 388 | Organic photovoltaic cell with 17% efficiency and superior processability. *National Science Review*, **2020**, 7, 1239-1246 | 10.8 | 318 |
| 387 | Achieving Highly Efficient Nonfullerene Organic Solar Cells with Improved Intermolecular Interaction and Open-Circuit Voltage. *Advanced Materials*, **2017**, 29, 1700254 | 24 | 314 |
| 386 | Ternary Polymer Solar Cells based on Two Acceptors and One Donor for Achieving 12.2% Efficiency. *Advanced Materials*, **2017**, 29, 1604059 | 24 | 314 |
| 385 | Achieving Over 15% Efficiency in Organic Photovoltaic Cells via Copolymer Design. *Advanced Materials*, **2019**, 31, e1808356 | 24 | 314 |
| 384 | Improved Charge Transport and Reduced Nonradiative Energy Loss Enable Over 16% Efficiency in Ternary Polymer Solar Cells. *Advanced Materials*, **2019**, 31, e1902302 | 24 | 311 |
| 383 | Highly efficient tandem polymer photovoltaic cells. *Advanced Materials*, **2010**, 22, 380-3 | 24 | 304 |
| 382 | Realizing over 10% efficiency in polymer solar cell by device optimization. *Science China Chemistry*, **2015**, 58, 248-256 | 7.9 | 302 |
| 381 | Single-Junction Organic Photovoltaic Cell with 19% Efficiency. *Advanced Materials*, **2021**, 33, e2102420 | 24 | 302 |
| 380 | A Highly Efficient Non-Fullerene Organic Solar Cell with a Fill Factor over 0.80 Enabled by a Fine-Tuned Hole-Transporting Layer. *Advanced Materials*, **2018**, 30, e1801801 | 24 | 299 |
| 379 | Efficient polymer solar cells based on benzothiadiazole and alkylphenyl substituted benzodithiophene with a power conversion efficiency over 8%. *Advanced Materials*, **2013**, 25, 4944-9 | 24 | 298 |
| 378 | A High-Efficiency Organic Solar Cell Enabled by the Strong Intramolecular Electron Push-Pull Effect of the Nonfullerene Acceptor. *Advanced Materials*, **2018**, 30, e1707170 | 24 | 295 |
| 377 | High-performance inverted polymer solar cells with solution-processed titanium chelate as electron-collecting layer on ITO electrode. *Advanced Materials*, **2012**, 24, 1476-81 | 24 | 289 |
| 376 | Improving the ordering and photovoltaic properties by extending π-conjugated area of electron-donating units in polymers with D-A structure. *Advanced Materials*, **2012**, 24, 3383-9 | 24 | 289 |
| 375 | Efficient Charge Transfer and Fine-Tuned Energy Level Alignment in a THF-Processed Fullerene-Free Organic Solar Cell with 11.3% Efficiency. *Advanced Materials*, **2017**, 29, 1604241 | 24 | 279 |
| 374 | Semi-transparent polymer solar cells with 6% PCE, 25% average visible transmittance and a color rendering index close to 100 for power generating window applications. *Energy and Environmental Science*, **2012**, 5, 9551 | 35.4 | 278 |

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| 373 | Efficient Semitransparent Organic Solar Cells with Tunable Color enabled by an Ultralow-Bandgap Nonfullerene Acceptor. *Advanced Materials*, **2017**, 29, 1703080 | 24 | 276 |
| 372 | From binary to ternary solvent: morphology fine-tuning of D/A blends in PDPP3T-based polymer solar cells. *Advanced Materials*, **2012**, 24, 6335-41 | 24 | 276 |
| 371 | Breaking the 10% Efficiency Barrier in Organic Photovoltaics: Morphology and Device Optimization of Well-Known PBDTTT Polymers. *Advanced Energy Materials*, **2016**, 6, 1502529 | 21.8 | 267 |
| 370 | Benzo[1,2-b:4,5-b?]dithiophene-based conjugated polymers: band gap and energy level control and their application in polymer solar cells. *Polymer Chemistry*, **2011**, 2, 2453 | 4.9 | 264 |
| 369 | Bay-linked perylene bisimides as promising non-fullerene acceptors for organic solar cells. *Chemical Communications*, **2014**, 50, 1024-6 | 5.8 | 262 |
| 368 | Wide-gap non-fullerene acceptor enabling high-performance organic photovoltaic cells for indoor applications. *Nature Energy*, **2019**, 4, 768-775 | 62.3 | 256 |
| 367 | Highly Efficient Fullerene-Free Polymer Solar Cells Fabricated with Polythiophene Derivative. *Advanced Materials*, **2016**, 28, 9416-9422 | 24 | 253 |
| 366 | 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 |
| 365 | 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 |
| 364 | Side Chain Selection for Designing Highly Efficient Photovoltaic Polymers with 2D-Conjugated Structure. *Macromolecules*, **2014**, 47, 4653-4659 | 5.5 | 240 |
| 363 | Efficient Polymer Solar Cells with Thin Active Layers Based on Alternating Polyfluorene Copolymer/Fullerene Bulk Heterojunctions. *Advanced Materials*, **2009**, 21, 4238-4242 | 24 | 240 |
| 362 | Manipulating aggregation and molecular orientation in all-polymer photovoltaic cells. *Advanced Materials*, **2015**, 27, 6046-54 | 24 | 232 |
| 361 | Low-temperature solution-processed hydrogen molybdenum and vanadium bronzes for an efficient hole-transport layer in organic electronics. *Advanced Materials*, **2013**, 25, 2051-5 | 24 | 230 |
| 360 | New Wide Band Gap Donor for Efficient Fullerene-Free All-Small-Molecule Organic Solar Cells. *Journal of the American Chemical Society*, **2017**, 139, 1958-1966 | 16.4 | 225 |
| 359 | Influence of D/A ratio on photovoltaic performance of a highly efficient polymer solar cell system. *Advanced Materials*, **2012**, 24, 6536-41 | 24 | 218 |
| 358 | Optical Gaps of Organic Solar Cells as a Reference for Comparing Voltage Losses. *Advanced Energy Materials*, **2018**, 8, 1801352 | 21.8 | 211 |
| 357 | Binary additives synergistically boost the efficiency of all-polymer solar cells up to 3.45%. *Energy and Environmental Science*, **2014**, 7, 1351-1356 | 35.4 | 209 |
| 356 | High-Efficiency Nonfullerene Organic Solar Cells: Critical Factors that Affect Complex Multi-Length Scale Morphology and Device Performance. *Advanced Energy Materials*, **2017**, 7, 1602000 | 21.8 | 205 |

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| 355 | Design of a New Small-Molecule Electron Acceptor Enables Efficient Polymer Solar Cells with High Fill Factor. *Advanced Materials*, **2017**, 29, 1704051 | 24 | 200 |
| 354 | Remove the Residual Additives toward Enhanced Efficiency with Higher Reproducibility in Polymer Solar Cells. *Journal of Physical Chemistry C*, **2013**, 117, 14920-14928 | 3.8 | 199 |
| 353 | Enhanced photovoltaic performance by modulating surface composition in bulk heterojunction polymer solar cells based on PBDTTT-C-T/PC71 BM. *Advanced Materials*, **2014**, 26, 4043-9 | 24 | 198 |
| 352 | Green-solvent-processable organic solar cells. *Materials Today*, **2016**, 19, 533-543 | 21.8 | 193 |
| 351 | Stable and Efficient Organo-Metal Halide Hybrid Perovskite Solar Cells via □Conjugated Lewis Base Polymer Induced Trap Passivation and Charge Extraction. *Advanced Materials*, **2018**, 30, e1706126 | 24 | 192 |
| 350 | Controlling Blend Morphology for Ultrahigh Current Density in Nonfullerene Acceptor-Based Organic Solar Cells. *ACS Energy Letters*, **2018**, 3, 669-676 | 20.1 | 187 |
| 349 | A chlorinated low-bandgap small-molecule acceptor for organic solar cells with 14.1% efficiency and low energy loss. *Science China Chemistry*, **2018**, 61, 1307-1313 | 7.9 | 184 |
| 348 | A Semitransparent Inorganic Perovskite Film for Overcoming Ultraviolet Light Instability of Organic Solar Cells and Achieving 14.03% Efficiency. *Advanced Materials*, **2018**, 30, e1800855 | 24 | 183 |
| 347 | PDT-S-T: a new polymer with optimized molecular conformation for controlled aggregation and □□ stacking and its application in efficient photovoltaic devices. *Advanced Materials*, **2013**, 25, 3449-55 | 24 | 179 |
| 346 | New developments in non-fullerene small molecule acceptors for polymer solar cells. *Materials Chemistry Frontiers*, **2017**, 1, 1291-1303 | 7.8 | 175 |
| 345 | Synthesis and Absorption Spectra of Poly(3-(phenylenevinyl)thiophene)s with Conjugated Side Chains. *Macromolecules*, **2006**, 39, 594-603 | 5.5 | 174 |
| 344 | A polythiophene derivative with superior properties for practical application in polymer solar cells. *Advanced Materials*, **2014**, 26, 5880-5 | 24 | 173 |
| 343 | Ternary Nonfullerene Polymer Solar Cells with 12.16% Efficiency by Introducing One Acceptor with Cascading Energy Level and Complementary Absorption. *Advanced Materials*, **2018**, 30, 1703005 | 24 | 156 |
| 342 | Significant Influence of the Methoxyl Substitution Position on Optoelectronic Properties and Molecular Packing of Small-Molecule Electron Acceptors for Photovoltaic Cells. *Advanced Energy Materials*, **2017**, 7, 1700183 | 21.8 | 155 |
| 341 | PBDTTTZ: A Broad Band Gap Conjugated Polymer with High Photovoltaic Performance in Polymer Solar Cells. *Macromolecules*, **2011**, 44, 4035-4037 | 5.5 | 154 |
| 340 | Application of Two-Dimensional Conjugated Benzo[1,2-b:4,5-b?]dithiophene in Quinoxaline-Based Photovoltaic Polymers. *Macromolecules*, **2012**, 45, 3032-3038 | 5.5 | 152 |
| 339 | Hybrid nanocrystal/polymer solar cells based on tetrapod-shaped CdSe(x)Te(1-x) nanocrystals. *Nanotechnology*, **2006**, 17, 4041-7 | 3.4 | 152 |
| 338 | Molecular design of a wide-band-gap conjugated polymer for efficient fullerene-free polymer solar cells. *Energy and Environmental Science*, **2017**, 10, 546-551 | 35.4 | 151 |

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| 337 | Achieving High-Performance Ternary Organic Solar Cells through Tuning Acceptor Alloy. *Advanced Materials*, **2017**, 29, 1603154 | 24 | 149 |
| 336 | Interface design for high-efficiency non-fullerene polymer solar cells. *Energy and Environmental Science*, **2017**, 10, 1784-1791 | 35.4 | 149 |
| 335 | MoOx and V2Ox as hole and electron transport layers through functionalized intercalation in normal and inverted organic optoelectronic devices. *Light: Science and Applications*, **2015**, 4, e273-e273 | 16.7 | 149 |
| 334 | Green-Solvent-Processed All-Polymer Solar Cells Containing a Perylene Diimide-Based Acceptor with an Efficiency over 6.5%. *Advanced Energy Materials*, **2016**, 6, 1501991 | 21.8 | 148 |
| 333 | High performance polymer solar cells with as-prepared zirconium acetylacetonate film as cathode buffer layer. *Scientific Reports*, **2014**, 4, 4691 | 4.9 | 144 |
| 332 | Reduced non-radiative charge recombination enables organic photovoltaic cell approaching 19% efficiency. *Joule*, **2021**, 5, 2408-2419 | 27.8 | 144 |
| 331 | Fluorination vs. chlorination: a case study on high performance organic photovoltaic materials. *Science China Chemistry*, **2018**, 61, 1328-1337 | 7.9 | 142 |
| 330 | PBDB-T and its derivatives: A family of polymer donors enables over 17% efficiency in organic photovoltaics. *Materials Today*, **2020**, 35, 115-130 | 21.8 | 141 |
| 329 | Two Well-Miscible Acceptors Work as One for Efficient Fullerene-Free Organic Solar Cells. *Advanced Materials*, **2017**, 29, 1700437 | 24 | 140 |
| 328 | Sulfonyl: a new application of electron-withdrawing substituent in highly efficient photovoltaic polymer. *Chemical Communications*, **2011**, 47, 8904-6 | 5.8 | 138 |
| 327 | Environmentally Friendly Solvent-Processed Organic Solar Cells that are Highly Efficient and Adaptable for the Blade-Coating Method. *Advanced Materials*, **2018**, 30, 1704837 | 24 | 138 |
| 326 | Replacing Alkoxy Groups with Alkylthienyl Groups: A Feasible Approach To Improve the Properties of Photovoltaic Polymers. *Angewandte Chemie*, **2011**, 123, 9871-9876 | 3.6 | 137 |
| 325 | Realizing Ultrahigh Mechanical Flexibility and >15% Efficiency of Flexible Organic Solar Cells via a "Welding" Flexible Transparent Electrode. *Advanced Materials*, **2020**, 32, e1908478 | 24 | 133 |
| 324 | Over 11% Efficiency in Tandem Polymer Solar Cells Featured by a Low-Band-Gap Polymer with Fine-Tuned Properties. *Advanced Materials*, **2016**, 28, 5133-8 | 24 | 133 |
| 323 | An easy and effective method to modulate molecular energy level of the polymer based on benzodithiophene for the application in polymer solar cells. *Advanced Materials*, **2014**, 26, 2089-95 | 24 | 132 |
| 322 | Design and application of volatilizable solid additives in non-fullerene organic solar cells. *Nature Communications*, **2018**, 9, 4645 | 17.4 | 130 |
| 321 | Effect of Carbon Chain Length in the Substituent of PCBM-like Molecules on Their Photovoltaic Properties. *Advanced Functional Materials*, **2010**, 20, 1480-1487 | 15.6 | 128 |
| 320 | Quenching to the Percolation Threshold in Organic Solar Cells. *Joule*, **2019**, 3, 443-458 | 27.8 | 128 |

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| 319 | Highly efficient tandem polymer solar cells with a photovoltaic response in the visible light range. *Advanced Materials*, **2015**, 27, 1189-94 | 24 | 127 |
| 318 | Surpassing 10% Efficiency Benchmark for Nonfullerene Organic Solar Cells by Scalable Coating in Air from Single Nonhalogenated Solvent. *Advanced Materials*, **2018**, 30, 1705485 | 24 | 127 |
| 317 | Modulating Molecular Orientation Enables Efficient Nonfullerene Small-Molecule Organic Solar Cells. *Chemistry of Materials*, **2018**, 30, 2129-2134 | 9.6 | 127 |
| 316 | A Printable Organic Cathode Interlayer Enables over 13% Efficiency for 1-cm2 Organic Solar Cells. *Joule*, **2019**, 3, 227-239 | 27.8 | 127 |
| 315 | An electron acceptor based on indacenodithiophene and 1,1-dicyanomethylene-3-indanone for fullerene-free organic solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 1910-1914 | 13 | 125 |
| 314 | Critical Role of Molecular Electrostatic Potential on Charge Generation in Organic Solar Cells. *Chinese Journal of Chemistry*, **2018**, 36, 491-494 | 4.9 | 125 |
| 313 | Conjugated and Nonconjugated Substitution Effect on Photovoltaic Properties of Benzodifuran-Based Photovoltaic Polymers. *Macromolecules*, **2012**, 45, 6923-6929 | 5.5 | 125 |
| 312 | A Fluorinated Polythiophene Derivative with Stabilized Backbone Conformation for Highly Efficient Fullerene and Non-Fullerene Polymer Solar Cells. *Macromolecules*, **2016**, 49, 2993-3000 | 5.5 | 125 |
| 311 | Low band gap dithieno[3,2-b:2',3'-d]silole-containing polymers, synthesis, characterization and photovoltaic application. *Chemical Communications*, **2009**, 5570-2 | 5.8 | 124 |
| 310 | Quantification of nano- and mesoscale phase separation and relation to donor and acceptor quantum efficiency, J(sc), and FF in polymer:fullerene solar cells. *Advanced Materials*, **2014**, 26, 4234-41 | 24 | 123 |
| 309 | Branched Poly(thienylene vinylene)s with Absorption Spectra Covering the Whole Visible Region. *Macromolecules*, **2006**, 39, 4657-4662 | 5.5 | 120 |
| 308 | Selenopheno[3,2-b]thiophene-Based Narrow-Bandgap Nonfullerene Acceptor Enabling 13.3% Efficiency for Organic Solar Cells with Thickness-Insensitive Feature. *ACS Energy Letters*, **2018**, 3, 2967-2976 | 20.1 | 109 |
| 307 | Recent Progress in Chlorinated Organic Photovoltaic Materials. *Accounts of Chemical Research*, **2020**, 53, 822-832 | 24.3 | 106 |
| 306 | Heat-Insulating Multifunctional Semitransparent Polymer Solar Cells. *Joule*, **2018**, 2, 1816-1826 | 27.8 | 105 |
| 305 | Enhanced Photovoltaic Performance of Diketopyrrolopyrrole (DPP)-Based Polymers with Extended Conjugation. *Journal of Physical Chemistry C*, **2013**, 117, 9550-9557 | 3.8 | 100 |
| 304 | 15.3% efficiency all-small-molecule organic solar cells enabled by symmetric phenyl substitution. *Science China Materials*, **2020**, 63, 1142-1150 | 7.1 | 99 |
| 303 | Enhanced Efficiency in Fullerene-Free Polymer Solar Cell by Incorporating Fine-designed Donor and Acceptor Materials. *ACS Applied Materials & Interfaces*, **2015**, 7, 9274-80 | 9.5 | 97 |
| 302 | Synthesis of a 4,8-dialkoxy-benzo[1,2-b:4,5-b']difuran unit and its application in photovoltaic polymer. *Chemical Communications*, **2012**, 48, 3318-20 | 5.8 | 97 |

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| 301 | Poly[4,4-bis(2-ethylhexyl)cyclopenta[2,1-b;3,4-b?]dithiophene-2,6-diyl-alt-2,1,3-benzoselenadiazole-4,7-diyl], a New Low Band Gap Polymer in Polymer Solar Cells. *Journal of Physical Chemistry C*, **2009**, 113, 1601-1605 | 3.8 | 97 |
| 300 | Perylene Diimide Trimers Based Bulk Heterojunction Organic Solar Cells with Efficiency over 7%. *Advanced Energy Materials*, **2016**, 6, 1600060 | 21.8 | 97 |
| 299 | Highly Efficient Photovoltaic Polymers Based on Benzodithiophene and Quinoxaline with Deeper HOMO Levels. *Macromolecules*, **2015**, 48, 5172-5178 | 5.5 | 96 |
| 298 | A hyperbranched conjugated polymer as the cathode interlayer for high-performance polymer solar cells. *Advanced Materials*, **2013**, 25, 6889-94 | 24 | 95 |
| 297 | Molecular design of a non-fullerene acceptor enables a P3HT-based organic solar cell with 9.46% efficiency. *Energy and Environmental Science*, **2020**, 13, 2864-2869 | 35.4 | 93 |
| 296 | Achieving 12.8% Efficiency by Simultaneously Improving Open-Circuit Voltage and Short-Circuit Current Density in Tandem Organic Solar Cells. *Advanced Materials*, **2017**, 29, 1606340 | 24 | 91 |
| 295 | Spiro-Fused Perylene Diimide Arrays. *Journal of the American Chemical Society*, **2017**, 139, 15914-15920 | 16.4 | 90 |
| 294 | A universal halogen-free solvent system for highly efficient polymer solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 12723-12729 | 13 | 90 |
| 293 | Molecular design and morphology control towards efficient polymer solar cells processed using non-aromatic and non-chlorinated solvents. *Advanced Materials*, **2014**, 26, 2744-9, 2618 | 24 | 90 |
| 292 | An Easy and Effective Method To Modulate Molecular Energy Level of Poly(3-alkylthiophene) for High-Voc Polymer Solar Cells. *Macromolecules*, **2009**, 42, 9217-9219 | 5.5 | 90 |
| 291 | Tandem Organic Solar Cell with 20.2% Efficiency. *Joule*, **2022**, 6, 171-184 | 27.8 | 90 |
| 290 | 1 cm Organic Photovoltaic Cells for Indoor Application with over 20% Efficiency. *Advanced Materials*, **2019**, 31, e1904512 | 24 | 87 |
| 289 | Exceptionally low charge trapping enables highly efficient organic bulk heterojunction solar cells. *Energy and Environmental Science*, **2020**, 13, 2422-2430 | 35.4 | 86 |
| 288 | Precise Manipulation of Multilength Scale Morphology and Its Influence on Eco-Friendly Printed All-Polymer Solar Cells. *Advanced Functional Materials*, **2017**, 27, 1702016 | 15.6 | 85 |
| 287 | Enhanced charge extraction in organic solar cells through electron accumulation effects induced by metal nanoparticles. *Energy and Environmental Science*, **2013**, 6, 3372 | 35.4 | 84 |
| 286 | Improved Domain Size and Purity Enables Efficient All-Small-Molecule Ternary Solar Cells. *Advanced Materials*, **2017**, 29, 1703777 | 24 | 83 |
| 285 | High-Efficiency Polymer Solar Cells Enabled by Environment-Friendly Single-Solvent Processing. *Advanced Energy Materials*, **2016**, 6, 1502177 | 21.8 | 83 |
| 284 | Toward Efficient Polymer Solar Cells Processed by a Solution-Processed Layer-By-Layer Approach. *Advanced Materials*, **2018**, 30, e1802499 | 24 | 83 |

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| 283 | Molecular design toward efficient polymer solar cells with high polymer content. *Journal of the American Chemical Society*, **2013**, 135, 8464-7 | 16.4 | 83 |
| 282 | High Performance Organic Solar Cells Processed by Blade Coating in Air from a Benign Food Additive Solution. *Chemistry of Materials*, **2016**, 28, 7451-7458 | 9.6 | 83 |
| 281 | Efficient polymer solar cells based on poly(3-hexylthiophene) and indene-C□ bisadduct fabricated with non-halogenated solvents. *ACS Applied Materials & Interfaces*, **2014**, 6, 8190-8 | 9.5 | 82 |
| 280 | Synthesis and Photovoltaic Properties of a Donor□Acceptor Double-Cable Polythiophene with High Content of C60 Pendant. *Macromolecules*, **2007**, 40, 1868-1873 | 5.5 | 80 |
| 279 | Revealing the effects of molecular packing on the performances of polymer solar cells based on A□D□D□A type non-fullerene acceptors. *Journal of Materials Chemistry A*, **2018**, 6, 12132-12141 | 13 | 80 |
| 278 | Manipulation of Domain Purity and Orientational Ordering in High Performance All-Polymer Solar Cells. *Chemistry of Materials*, **2016**, 28, 6178-6185 | 9.6 | 78 |
| 277 | Room-temperature solution-processed molybdenum oxide as a hole transport layer with Ag nanoparticles for highly efficient inverted organic solar cells. *Journal of Materials Chemistry A*, **2013**, 1, 6614 | 13 | 78 |
| 276 | Synthesis and Photovoltaic Properties of Two Benzo[1,2-b:3,4-b?]dithiophene-Based Conjugated Polymers. *Journal of Physical Chemistry C*, **2009**, 113, 21202-21207 | 3.8 | 78 |
| 275 | Improvement of Photoluminescent and Photovoltaic Properties of Poly(thienylene vinylene) by Carboxylate Substitution. *Macromolecules*, **2009**, 42, 4377-4380 | 5.5 | 76 |
| 274 | Fullerene-free polymer solar cell based on a polythiophene derivative with an unprecedented energy loss of less than 0.5 eV. *Journal of Materials Chemistry A*, **2016**, 4, 18043-18049 | 13 | 75 |
| 273 | A Tandem Organic Photovoltaic Cell with 19.6% Efficiency Enabled by Light Distribution Control. *Advanced Materials*, **2021**, 33, e2102787 | 24 | 75 |
| 272 | Tuning the Hybridization of Local Exciton and Charge-Transfer States in Highly Efficient Organic Photovoltaic Cells. *Angewandte Chemie - International Edition*, **2020**, 59, 9004-9010 | 16.4 | 74 |
| 271 | Poly[3-(5-octyl-thienylene-vinyl)-thiophene]: a side-chain conjugated polymer with very broad absorption band. *Chemical Communications*, **2006**, 871-3 | 5.8 | 74 |
| 270 | A Wide Bandgap Polymer with Strong □Interaction for Efficient Fullerene-Free Polymer Solar Cells. *Advanced Energy Materials*, **2016**, 6, 1600742 | 21.8 | 74 |
| 269 | High-performance polymer solar cells with solution-processed and environmentally friendly CuOx anode buffer layer. *ACS Applied Materials & Interfaces*, **2013**, 5, 10658-64 | 9.5 | 73 |
| 268 | Reducing Voltage Losses in the A-DA?D-A Acceptor-Based Organic Solar Cells. *CheM*, **2020**, 6, 2147-2161 | 16.2 | 73 |
| 267 | Robust metal ion-chelated polymer interfacial layer for ultraflexible non-fullerene organic solar cells. *Nature Communications*, **2020**, 11, 4508 | 17.4 | 73 |
| 266 | Selecting a donor polymer for realizing favorable morphology in efficient non-fullerene acceptor-based solar cells. *Small*, **2014**, 10, 4658-63 | 11 | 72 |

| | | | |
|---|---|---|---|
| 265 | A Bifunctional Interlayer Material for Modifying Both the Anode and Cathode in Highly Efficient Polymer Solar Cells. *Advanced Materials*, **2016**, 28, 434-9 | 24 | 72 |
| 264 | Realizing 11.3% efficiency in fullerene-free polymer solar cells by device optimization. *Science China Chemistry*, **2016**, 59, 1574-1582 | 7.9 | 72 |
| 263 | Stable and low-photovoltage-loss perovskite solar cells by multifunctional passivation. *Nature Photonics*, **2021**, 15, 681-689 | 33.9 | 72 |
| 262 | Solution-Processable Conjugated Polymers as Anode Interfacial Layer Materials for Organic Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1800022 | 21.8 | 71 |
| 261 | [6,6]-Phenyl-C61-Butyric Acid Dimethylamino Ester as a Cathode Buffer Layer for High-Performance Polymer Solar Cells. *Advanced Energy Materials*, **2013**, 3, 1569-1574 | 21.8 | 70 |
| 260 | A unified description of non-radiative voltage losses in organic solar cells. *Nature Energy*, **2021**, 6, 799-806 | 62.3 | 70 |
| 259 | Enhanced □Interactions of Nonfullerene Acceptors by Volatilizable Solid Additives in Efficient Polymer Solar Cells. *Advanced Materials*, **2019**, 31, e1900477 | 24 | 69 |
| 258 | PBDT-TSR: a highly efficient conjugated polymer for polymer solar cells with a regioregular structure. *Journal of Materials Chemistry A*, **2016**, 4, 1708-1713 | 13 | 68 |
| 257 | Solution-Processed Rhenium Oxide: A Versatile Anode Buffer Layer for High Performance Polymer Solar Cells with Enhanced Light Harvest. *Advanced Energy Materials*, **2014**, 4, 1300884 | 21.8 | 68 |
| 256 | Poly(thieno[3,2-b]thiophene-alt-bithiazole): A D□A Copolymer Donor Showing Improved Photovoltaic Performance with Indene-C60 Bisadduct Acceptor. *Macromolecules*, **2012**, 45, 6930-6937 | 5.5 | 67 |
| 255 | The Crucial Role of Chlorinated Thiophene Orientation in Conjugated Polymers for Photovoltaic Devices. *Angewandte Chemie - International Edition*, **2018**, 57, 12911-12915 | 16.4 | 66 |
| 254 | Amine group functionalized fullerene derivatives as cathode buffer layers for high performance polymer solar cells. *Journal of Materials Chemistry A*, **2013**, 1, 9624 | 13 | 66 |
| 253 | Ultrathin polyaniline-based buffer layer for highly efficient polymer solar cells with wide applicability. *Scientific Reports*, **2014**, 4, 6570 | 4.9 | 65 |
| 252 | 2D-Conjugated Benzodithiophene-Based Polymer Acceptor: Design, Synthesis, Nanomorphology, and Photovoltaic Performance. *Macromolecules*, **2015**, 48, 7156-7163 | 5.5 | 64 |
| 251 | High Efficiency Organic Solar Cells Achieved by the Simultaneous Plasmon-Optical and Plasmon-Electrical Effects from Plasmonic Asymmetric Modes of Gold Nanostars. *Small*, **2016**, 12, 5200-5207 | 11 | 64 |
| 250 | A Novel n-Type Conjugated Polymer DOCN-PPV: Synthesis, Optical, and Electrochemical Properties. *Macromolecules*, **2006**, 39, 8889-8891 | 5.5 | 63 |
| 249 | Tailoring and Modifying an Organic Electron Acceptor toward the Cathode Interlayer for Highly Efficient Organic Solar Cells. *Advanced Materials*, **2020**, 32, e1906557 | 24 | 63 |
| 248 | Recent progress in wide bandgap conjugated polymer donors for high-performance nonfullerene organic photovoltaics. *Chemical Communications*, **2020**, 56, 4750-4760 | 5.8 | 61 |

| | | | |
|---|---|---|---|
| 247 | Synthesis and application of dithieno[2,3-d:2?,3?-d?]benzo[1,2-b:4,5-b?]dithiophene in conjugated polymer. *Journal of Materials Chemistry*, **2012**, 22, 21362 | | 61 |
| 246 | Manipulating Backbone Structure to Enhance Low Band Gap Polymer Photovoltaic Performance. *Advanced Energy Materials*, **2013**, 3, 930-937 | 21.8 | 61 |
| 245 | Interfacial engineering and optical coupling for multicolored semitransparent inverted organic photovoltaics with a record efficiency of over 12%. *Journal of Materials Chemistry A*, **2019**, 7, 15887-15894 | 13 | 60 |
| 244 | Efficient polymer solar cells with a solution-processed and thermal annealing-free RuO2 anode buffer layer. *Journal of Materials Chemistry A*, **2014**, 2, 1318-1324 | 13 | 60 |
| 243 | Design, synthesis and photovoltaic properties of a new D□A polymer with extended □-bridge units. *Journal of Materials Chemistry*, **2012**, 22, 21024 | | 59 |
| 242 | Molecular energy level modulation by changing the position of electron-donating side groups. *Journal of Materials Chemistry*, **2012**, 22, 5700 | | 59 |
| 241 | Correlations among Chemical Structure, Backbone Conformation, and Morphology in Two Highly Efficient Photovoltaic Polymer Materials. *Macromolecules*, **2016**, 49, 120-126 | 5.5 | 58 |
| 240 | A new n-type low bandgap conjugated polymer P-co-CDT: synthesis and excellent reversible electrochemical and electrochromic properties. *Chemical Communications*, **2008**, 6034-6 | 5.8 | 58 |
| 239 | Organic Photovoltaic Cells for Indoor Applications: Opportunities and Challenges. *ACS Applied Materials & Interfaces*, **2020**, 12, 38815-38828 | 9.5 | 58 |
| 238 | A New Conjugated Polymer that Enables the Integration of Photovoltaic and Light-Emitting Functions in One Device. *Advanced Materials*, **2021**, 33, e2101090 | 24 | 58 |
| 237 | Effects of energy-level offset between a donor and acceptor on the photovoltaic performance of non-fullerene organic solar cells. *Journal of Materials Chemistry A*, **2019**, 7, 18889-18897 | 13 | 57 |
| 236 | Application of Bis-PCBM in Polymer Solar Cells with Improved Voltage. *Journal of Physical Chemistry C*, **2013**, 117, 25360-25366 | 3.8 | 56 |
| 235 | Synthesis of a polythieno[3,4-b]thiophene derivative with a low-lying HOMO level and its application in polymer solar cells. *Chemical Communications*, **2011**, 47, 8850-2 | 5.8 | 56 |
| 234 | Synthesis and photovoltaic properties of the copolymers of 2-methoxy-5-(2?-ethylhexyloxy)-1,4-phenylene vinylene and 2,5-thienylene-vinylene. *Synthetic Metals*, **2005**, 150, 297-304 | 3.6 | 56 |
| 233 | A guest-assisted molecular-organization approach for >17% efficiency organic solar cells using environmentally friendly solvents. *Nature Energy*, | 62.3 | 54 |
| 232 | 12.88% efficiency in doctor-blade coated organic solar cells through optimizing the surface morphology of a ZnO cathode buffer layer. *Journal of Materials Chemistry A*, **2019**, 7, 212-220 | 13 | 53 |
| 231 | Regulating Bulk-Heterojunction Molecular Orientations through Surface Free Energy Control of Hole-Transporting Layers for High-Performance Organic Solar Cells. *Advanced Materials*, **2019**, 31, e1806921 | 24 | 53 |
| 230 | Reduced Nonradiative Energy Loss Caused by Aggregation of Nonfullerene Acceptor in Organic Solar Cells. *Advanced Energy Materials*, **2019**, 9, 1901823 | 21.8 | 53 |

| | | | |
|---|---|---|---|
| 229 | Layer-by-Layer Solution-Processed Low-Bandgap Polymer-PC61BM Solar Cells with High Efficiency. *Advanced Energy Materials*, **2014**, 4, 1301349 | 21.8 | 53 |
| 228 | Control of Mesoscale Morphology and Photovoltaic Performance in Diketopyrrolopyrrole-Based Small Band Gap Terpolymers. *Advanced Energy Materials*, **2017**, 7, 1601138 | 21.8 | 53 |
| 227 | A Polybenzo[1,2-b:4,5-b?]dithiophene Derivative with Deep HOMO Level and Its Application in High-Performance Polymer Solar Cells. *Angewandte Chemie*, **2010**, 122, 1542-1545 | 3.6 | 52 |
| 226 | A ternary organic solar cell with 300 nm thick active layer shows over 14% efficiency. *Science China Chemistry*, **2020**, 63, 21-27 | 7.9 | 52 |
| 225 | Triperylene Hexaimides Based All-Small-Molecule Solar Cells with an Efficiency over 6% and Open Circuit Voltage of 1.04 V. *Advanced Energy Materials*, **2017**, 7, 1601664 | 21.8 | 51 |
| 224 | A Thiadiazole-Based Conjugated Polymer with Ultradeep HOMO Level and Strong Electroluminescence Enables 18.6% Efficiency in Organic Solar Cell. *Advanced Energy Materials*, **2021**, 11, 2101705 | 21.8 | 51 |
| 223 | Carboxylate-Substituted Polythiophenes for Efficient Fullerene-Free Polymer Solar Cells: The Effect of Chlorination on Their Properties. *Macromolecules*, **2019**, 52, 4464-4474 | 5.5 | 50 |
| 222 | High-Efficiency Nonfullerene Organic Solar Cells Enabled by 1000 nm Thick Active Layers with a Low Trap-State Density. *ACS Applied Materials & Interfaces*, **2020**, 12, 18777-18784 | 9.5 | 50 |
| 221 | Printable MoO Anode Interlayers for Organic Solar Cells. *Advanced Materials*, **2018**, 30, e1801718 | 24 | 50 |
| 220 | From Binary to Ternary: Improving the External Quantum Efficiency of Small-Molecule Acceptor-Based Polymer Solar Cells with a Minute Amount of Fullerene Sensitization. *Advanced Energy Materials*, **2017**, 7, 1700328 | 21.8 | 49 |
| 219 | Enhanced efficiency of polymer photovoltaic cells via the incorporation of a water-soluble naphthalene diimide derivative as a cathode interlayer. *Journal of Materials Chemistry C*, **2015**, 3, 9565-9571 | 7.1 | 49 |
| 218 | A Novel pH Neutral Self-Doped Polymer for Anode Interfacial Layer in Efficient Polymer Solar Cells. *Macromolecules*, **2016**, 49, 8126-8133 | 5.5 | 49 |
| 217 | Enhancing the Performance of the Half Tin and Half Lead Perovskite Solar Cells by Suppression of the Bulk and Interfacial Charge Recombination. *Advanced Materials*, **2018**, 30, e1803703 | 24 | 49 |
| 216 | A chlorinated nonacyclic carbazole-based acceptor affords over 15% efficiency in organic solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 1131-1137 | 13 | 48 |
| 215 | Rational Anode Engineering Enables Progresses for Different Types of Organic Solar Cells. *Advanced Energy Materials*, **2021**, 11, 2100492 | 21.8 | 48 |
| 214 | Completely non-fused electron acceptor with 3D-interpenetrated crystalline structure enables efficient and stable organic solar cell. *Nature Communications*, **2021**, 12, 5093 | 17.4 | 48 |
| 213 | Recent progress in organic solar cells (Part I material science). *Science China Chemistry*, **2022**, 65, 224-268 | 7.9 | 48 |
| 212 | Subtle side-chain tuning on terminal groups of small molecule electron acceptors for efficient fullerene-free polymer solar cells. *Journal of Materials Chemistry A*, **2017**, 5, 15175-15182 | 13 | 47 |

| | | | |
|---|---|---|---|
| 211 | Towards high-efficiency non-fullerene organic solar cells: Matching small molecule/polymer donor/acceptor. *Organic Electronics*, **2014**, 15, 2270-2276 | 3.5 | 47 |
| 210 | Molecular Design and Application of a Photovoltaic Polymer with Improved Optical Properties and Molecular Energy Levels. *Macromolecules*, **2015**, 48, 3493-3499 | 5.5 | 46 |
| 209 | Solution-processed indacenodithiophene-based small molecule for bulk heterojunction solar cells. *Journal of Materials Chemistry A*, **2013**, 1, 14214 | 13 | 45 |
| 208 | Influence of the backbone conformation of conjugated polymers on morphology and photovoltaic properties. *Polymer Chemistry*, **2014**, 5, 1976-1981 | 4.9 | 44 |
| 207 | Synthesis and properties of polythiophenes with conjugated side-chains containing carbon–carbon double and triple bonds. *Journal of Polymer Science Part A*, **2006**, 44, 2206-2214 | 2.5 | 44 |
| 206 | Design, Synthesis, and Photovoltaic Characterization of a Small Molecular Acceptor with an Ultra-Narrow Band Gap. *Angewandte Chemie*, **2017**, 129, 3091-3095 | 3.6 | 43 |
| 205 | Competition between morphological attributes in the thermal annealing and additive processing of polymer solar cells. *Journal of Materials Chemistry C*, **2013**, 1, 5023 | 7.1 | 42 |
| 204 | Benzodifuran-alt-thienothiophene based low band gap copolymers: substituent effects on their molecular energy levels and photovoltaic properties. *Polymer Chemistry*, **2013**, 4, 3047 | 4.9 | 42 |
| 203 | Dialkylthio Substitution: An Effective Method to Modulate the Molecular Energy Levels of 2D-BDT Photovoltaic Polymers. *ACS Applied Materials & Interfaces*, **2016**, 8, 3575-83 | 9.5 | 41 |
| 202 | The Effect of Processing Additives on Energetic Disorder in Highly Efficient Organic Photovoltaics: A Case Study on PBDTTT-C-T:PC71 BM. *Advanced Materials*, **2015**, 27, 3868-73 | 24 | 41 |
| 201 | Molecular design strategies for voltage modulation in highly efficient polymer solar cells. *Polymer International*, **2015**, 64, 957-962 | 3.3 | 41 |
| 200 | Low Temperature Aggregation Transitions in N3 and Y6 Acceptors Enable Double-Annealing Method That Yields Hierarchical Morphology and Superior Efficiency in Nonfullerene Organic Solar Cells. *Advanced Functional Materials*, **2020**, 30, 2005011 | 15.6 | 41 |
| 199 | Polyamino acid interlayer facilitates electron extraction in narrow band gap fullerene-free organic solar cells with an outstanding short-circuit current. *Nano Energy*, **2018**, 50, 169-175 | 17.1 | 41 |
| 198 | Molecular design toward efficient polymer solar cells processed by green solvents. *Polymer Chemistry*, **2015**, 6, 4089-4095 | 4.9 | 40 |
| 197 | Toward efficient non-fullerene polymer solar cells: Selection of donor polymers. *Organic Electronics* , **2015**, 17, 295-303 | 3.5 | 40 |
| 196 | Enhanced performance of white polymer light-emitting diodes using polymer blends as hole-transporting layers. *Applied Physics Letters*, **2006**, 89, 153501 | 3.4 | 40 |
| 195 | Recent advances in non-fullerene organic solar cells: from lab to fab. *Chemical Communications*, **2020**, 56, 14337-14352 | 5.8 | 40 |
| 194 | Potential of Nonfullerene Small Molecules with High Photovoltaic Performance. *Chemistry - an Asian Journal*, **2017**, 12, 2160-2171 | 4.5 | 39 |

| | | | |
|---|---|---|---|
| 193 | Correlating Three-dimensional Morphology With Function in PBDB-T:IT-M Non-Fullerene Organic Solar Cells. *Solar Rrl*, **2018**, 2, 1800114 | 7.1 | 39 |
| 192 | Synthesis of regioregular side-chain conjugated polythiophene and its application in photovoltaic solar cells. *Synthetic Metals*, **2005**, 153, 93-96 | 3.6 | 39 |
| 191 | 17% efficiency all-small-molecule organic solar cells enabled by nanoscale phase separation with a hierarchical branched structure. *Energy and Environmental Science*, | 35.4 | 39 |
| 190 | Tunable Electron Donating and Accepting Properties Achieved by Modulating the Steric Hindrance of Side Chains in A-D-A Small-Molecule Photovoltaic Materials. *Chemistry of Materials*, **2018**, 30, 619-628 | 9.6 | 39 |
| 189 | Exceeding 14% Efficiency for Solution-Processed Tandem Organic Solar Cells Combining Fullerene- and Nonfullerene-Based Subcells with Complementary Absorption. *ACS Energy Letters*, **2018**, 3, 2566-2572 | 20.1 | 39 |
| 188 | Strong polymer molecular weight-dependent material interactions: impact on the formation of the polymer/fullerene bulk heterojunction morphology. *Journal of Materials Chemistry A*, **2017**, 5, 13176-13188 | 13 | 38 |
| 187 | Exquisite modulation of ZnO nanoparticle electron transporting layer for high-performance fullerene-free organic solar cell with inverted structure. *Journal of Materials Chemistry A*, **2019**, 7, 3570-3576 | 13 | 38 |
| 186 | A polymer design strategy toward green solvent processed efficient non-fullerene polymer solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 4324-4330 | 13 | 38 |
| 185 | A diketopyrrolopyrrole molecule end-capped with a furan-2-carboxylate moiety: the planarity of molecular geometry and photovoltaic properties. *Journal of Materials Chemistry A*, **2014**, 2, 6589 | 13 | 38 |
| 184 | Poly(alkylthio-p-phenylenevinylene): Synthesis and electroluminescent and photovoltaic properties. *Journal of Polymer Science Part A*, **2006**, 44, 1279-1290 | 2.5 | 38 |
| 183 | Morphology control enables thickness-insensitive efficient nonfullerene polymer solar cells. *Materials Chemistry Frontiers*, **2017**, 1, 2057-2064 | 7.8 | 37 |
| 182 | A high performance three-dimensional thiophene-annulated perylene dye as an acceptor for organic solar cells. *Chemical Communications*, **2016**, 52, 11500-11503 | 5.8 | 37 |
| 181 | Improved efficiency and stability of polymer solar cells utilizing two-dimensional reduced graphene oxide: graphene oxide nanocomposites as hole-collection material. *ACS Applied Materials & Interfaces*, **2014**, 6, 22334-42 | 9.5 | 37 |
| 180 | Over 1.1 eV Workfunction Tuning of Cesium Intercalated Metal Oxides for Functioning as Both Electron and Hole Transport Layers in Organic Optoelectronic Devices. *Advanced Functional Materials*, **2014**, 24, 7348-7356 | 15.6 | 37 |
| 179 | 18.5% Efficiency Organic Solar Cells with a Hybrid Planar/Bulk Heterojunction. *Advanced Materials*, **2021**, 33, e2103091 | 24 | 37 |
| 178 | A Novel Wide-Bandgap Polymer with Deep Ionization Potential Enables Exceeding 16% Efficiency in Ternary Nonfullerene Polymer Solar Cells. *Advanced Functional Materials*, **2020**, 30, 1910466 | 15.6 | 36 |
| 177 | Understanding How Processing Additives Tune the Nanoscale Morphology of High Efficiency Organic Photovoltaic Blends: From Casting Solution to Spun-Cast Thin Film. *Advanced Functional Materials*, **2014**, 24, 6647-6657 | 15.6 | 36 |
| 176 | Recent Advances in Fullerene-free Polymer Solar Cells: Materials and Devices. *Chinese Journal of Chemistry*, **2019**, 37, 207-215 | 4.9 | 36 |

| | | | |
|---|---|---|---|
| 175 | Poly(ethylene glycol) modified [60]fullerene as electron buffer layer for high-performance polymer solar cells. *Applied Physics Letters*, **2013**, 102, 143902 | 3.4 | 35 |
| 174 | Role of Polymer Segregation on the Mechanical Behavior of All-Polymer Solar Cell Active Layers. *ACS Applied Materials & Interfaces*, **2017**, 9, 43886-43892 | 9.5 | 35 |
| 173 | A Self-Organized Poly(vinylpyrrolidone)-Based Cathode Interlayer in Inverted Fullerene-Free Organic Solar Cells. *Advanced Materials*, **2019**, 31, e1804657 | 24 | 35 |
| 172 | Molecular design revitalizes the low-cost PTV-polymer for highly efficient organic solar cells.. *National Science Review*, **2021**, 8, nwab031 | 10.8 | 35 |
| 171 | Multi-component non-fullerene acceptors with tunable bandgap structures for efficient organic solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 23644-23649 | 13 | 35 |
| 170 | Rational selection of solvents and fine tuning of morphologies toward highly efficient polymer solar cells fabricated using green solvents. *RSC Advances*, **2015**, 5, 69567-69572 | 3.7 | 34 |
| 169 | A crosslinked fullerene matrix doped with an ionic fullerene as a cathodic buffer layer toward high-performance and thermally stable polymer and organic metallohalide perovskite solar cells. *Journal of Materials Chemistry A*, **2015**, 3, 20382-20388 | 13 | 34 |
| 168 | Efficiency above 12% for 1 cm Flexible Organic Solar Cells with Ag/Cu Grid Transparent Conducting Electrode. *Advanced Science*, **2019**, 6, 1901490 | 13.6 | 34 |
| 167 | Perovskite-polymer hybrid solar cells with near-infrared external quantum efficiency over 40%. *Science China Materials*, **2015**, 58, 953-960 | 7.1 | 34 |
| 166 | Enhancing the power conversion efficiency of polymer solar cells to 9.26% by a synergistic effect of fluoro and carboxylate substitution. *Journal of Materials Chemistry A*, **2016**, 4, 8097-8104 | 13 | 34 |
| 165 | Optimization of side chains in alkylthiothiophene-substituted benzo[1,2-b:4,5-b?]dithiophene-based photovoltaic polymers. *Polymer Chemistry*, **2015**, 6, 2752-2760 | 4.9 | 33 |
| 164 | The Critical Role of Anode Work Function in Non-Fullerene Organic Solar Cells Unveiled by Counterion-Size-Controlled Self-Doping Conjugated Polymers. *Chemistry of Materials*, **2018**, 30, 1078-1084 | 9.6 | 32 |
| 163 | Active Layer Materials for Organic Solar Cells. *Green Energy and Technology*, **2013**, 17-42 | 0.6 | 32 |
| 162 | Thermoplastic Elastomer Tunes Phase Structure and Promotes Stretchability of High-Efficiency Organic Solar Cells. *Advanced Materials*, **2021**, 33, e2106732 | 24 | 32 |
| 161 | Self-Assembled Quasi-3D Nanocomposite: A Novel p-Type Hole Transport Layer for High Performance Inverted Organic Solar Cells. *Advanced Functional Materials*, **2018**, 28, 1706403 | 15.6 | 31 |
| 160 | Polymer non-fullerene solar cells of vastly different efficiencies for minor side-chain modification: impact of charge transfer, carrier lifetime, morphology and mobility. *Journal of Materials Chemistry A*, **2018**, 6, 12484-12492 | 13 | 31 |
| 159 | Achieving 10.5% efficiency for inverted polymer solar cells by modifying the ZnO cathode interlayer with phenols. *Journal of Materials Chemistry A*, **2016**, 4, 16824-16829 | 13 | 31 |
| 158 | Trapping Light with a Nanostructured CeOx/Al Back Electrode for High-Performance Polymer Solar Cells. *Advanced Materials Interfaces*, **2014**, 1, 1400197 | 4.6 | 30 |

| | | | |
|---|---|---|---|
| 157 | Investigations of the Conjugated Polymers Based on Dithienogermole (DTG) Units for Photovoltaic Applications. *Macromolecules*, **2014**, 47, 5558-5565 | 5.5 | 30 |
| 156 | Biindene-C60 adducts for the application as acceptor in polymer solar cells with higher open-circuit-voltage. *Solar Energy Materials and Solar Cells*, **2011**, 95, 899-903 | 6.4 | 30 |
| 155 | Tuning the Energetic Landscape of RuddlesdenPopper Perovskite Films for Efficient Solar Cells. *ACS Energy Letters*, **2020**, 5, 39-46 | 20.1 | 30 |
| 154 | Increasing Quantum Efficiency of Polymer Solar Cells with Efficient Exciton Splitting and Long Carrier Lifetime by Molecular Doping at Heterojunctions. *ACS Energy Letters*, **2019**, 4, 1356-1363 | 20.1 | 29 |
| 153 | Toward reliable and accurate evaluation of polymer solar cells based on low band gap polymers. *Journal of Materials Chemistry C*, **2015**, 3, 564-569 | 7.1 | 29 |
| 152 | An Easily Accessible Cathode Buffer Layer for Achieving Multiple High Performance Polymer Photovoltaic Cells. *Journal of Physical Chemistry C*, **2015**, 119, 27322-27329 | 3.8 | 29 |
| 151 | Efficient fullerene-based and fullerene-free polymer solar cells using two wide band gap thiophene-thiazolothiazole-based photovoltaic materials. *Journal of Materials Chemistry A*, **2016**, 4, 9511-9518 | 13 | 28 |
| 150 | Highly efficient planar perovskite solar cells achieved by simultaneous defect engineering and formation kinetic control. *Journal of Materials Chemistry A*, **2018**, 6, 23865-23874 | 13 | 28 |
| 149 | Investigation of Conjugated Polymers Based on Naphtho[2,3-c]thiophene-4,9-dione in Fullerene-Based and Fullerene-Free Polymer Solar Cells. *Macromolecules*, **2017**, 50, 1453-1462 | 5.5 | 27 |
| 148 | Enhanced performance of polymer solar cells using PEDOT:PSS doped with Fe3O4 magnetic nanoparticles aligned by an external magnetostatic field as an anode buffer layer. *ACS Applied Materials & Interfaces*, **2014**, 6, 13201-8 | 9.5 | 27 |
| 147 | Efficient charge generation at low energy losses in organic solar cells: a key issues review. *Reports on Progress in Physics*, **2020**, 83, 082601 | 14.4 | 26 |
| 146 | Quadrupole Moment Induced Morphology Control Via a Highly Volatile Small Molecule in Efficient Organic Solar Cells. *Advanced Functional Materials*, **2021**, 31, 2010535 | 15.6 | 26 |
| 145 | Measuring Temperature-Dependent Miscibility for Polymer Solar Cell Blends: An Easily Accessible Optical Method Reveals Complex Behavior. *Chemistry of Materials*, **2018**, 30, 3943-3951 | 9.6 | 26 |
| 144 | Printable SnO2 cathode interlayer with up to 500 nm thickness-tolerance for high-performance and large-area organic solar cells. *Science China Chemistry*, **2020**, 63, 957-965 | 7.9 | 25 |
| 143 | The crucial role of intermolecular interactions in ADA-type electron acceptors and their effective modulation. *Journal of Materials Chemistry A*, **2018**, 6, 2664-2670 | 13 | 25 |
| 142 | Over 100-nm-Thick MoOx Films with Superior Hole Collection and Transport Properties for Organic Solar Cells. *Advanced Energy Materials*, **2018**, 8, 1800698 | 21.8 | 25 |
| 141 | Observing electron transport and percolation in selected bulk heterojunctions bearing fullerene derivatives, non-fullerene small molecules, and polymeric acceptors. *Nano Energy*, **2019**, 64, 103950 | 17.1 | 25 |
| 140 | A Switchable Interconnecting Layer for High Performance Tandem Organic Solar Cell. *Advanced Energy Materials*, **2017**, 7, 1701164 | 21.8 | 25 |

| | | | |
|---|---|---|---|
| 139 | Enhanced intermolecular interactions to improve twisted polymer photovoltaic performance. *Science China Chemistry*, **2019**, 62, 370-377 | 7.9 | 24 |
| 138 | Side-chain effects on the solution-phase conformations and charge photogeneration dynamics of low-bandgap copolymers. *Journal of Chemical Physics*, **2013**, 139, 124904 | 3.9 | 24 |
| 137 | n-doped inorganic molecular clusters as a new type of hole transport material for efficient organic solar cells. *Joule*, **2021**, 5, 646-658 | 27.8 | 24 |
| 136 | Significant influence of doping effect on photovoltaic performance of efficient fullerene-free polymer solar cells. *Journal of Energy Chemistry*, **2020**, 43, 40-46 | 12 | 24 |
| 135 | The performance-stability conundrum of BTP-based organic solar cells. *Joule*, **2021**, 5, 2129-2147 | 27.8 | 24 |
| 134 | Energy level modulation of ITIC derivatives: Effects on the photodegradation of conventional and inverted organic solar cells. *Organic Electronics*, **2019**, 69, 255-262 | 3.5 | 23 |
| 133 | Efficient and photostable ternary organic solar cells with a narrow band gap non-fullerene acceptor and fullerene additive. *Journal of Materials Chemistry A*, **2020**, 8, 6682-6691 | 13 | 23 |
| 132 | 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. *ACS Applied Materials & Interfaces*, **2019**, 11, 31069-31077 | 9.5 | 23 |
| 131 | Stabilization of the film morphology in polymer: Fullerene heterojunction solar cells with photocrosslinkable bromine-functionalized low-bandgap copolymers. *Journal of Polymer Science Part A*, **2013**, 51, 3123-3131 | 2.5 | 23 |
| 130 | Mechanism of Primary Charge Photogeneration in Polyfluorene Copolymer/Fullerene Blends and Influence of the Donor/Acceptor Lowest Unoccupied Molecular Orbital Level Offset. *Journal of Physical Chemistry C*, **2013**, 117, 735-749 | 3.8 | 23 |
| 129 | Electroluminescent and Photovoltaic Properties of the Crosslinkable Poly(phenylene vinylene) Derivative with Side Chains Containing Vinyl Groups. *Macromolecular Chemistry and Physics*, **2005**, 206, 1311-1318 | 2.6 | 23 |
| 128 | Hybrid Perovskite Quantum Dot/Non-Fullerene Molecule Solar Cells with Efficiency Over 15%. *Advanced Functional Materials*, **2021**, 31, 2101272 | 15.6 | 23 |
| 127 | Efficient Fullerene-Free Polymer Solar Cells Based on Alkylthio Substituted Conjugated Polymers. *Journal of Physical Chemistry C*, **2017**, 121, 4825-4833 | 3.8 | 22 |
| 126 | Construction of planar and bulk integrated heterojunction polymer solar cells using cross-linkable D-A copolymer. *ACS Applied Materials & Interfaces*, **2013**, 5, 6591-7 | 9.5 | 22 |
| 125 | Environmentally-friendly solvent processed fullerene-free organic solar cells enabled by screening halogen-free solvent additives. *Science China Materials*, **2017**, 60, 697-706 | 7.1 | 22 |
| 124 | The effect of aggregation behavior on photovoltaic performances in benzodithiophene-thiazolothiazole-based wide band-gap conjugated polymers with side chain position changes. *Polymer Chemistry*, **2020**, 11, 1629-1636 | 4.9 | 22 |
| 123 | Low band-gap conjugated polymer based on diketopyrrolopyrrole units and its application in organic photovoltaic cells. *Journal of Materials Chemistry A*, **2017**, 5, 10416-10423 | 13 | 21 |
| 122 | Design of wide-bandgap polymers with deeper ionization potential enables efficient ternary non-fullerene polymer solar cells with 13% efficiency. *Journal of Materials Chemistry A*, **2019**, 7, 14153-14162 | 13 | 21 |

| | | | |
|---|---|---|---|
| 121 | Highly fluorescent anthracene derivative as a non-fullerene acceptor in OSCs with small non-radiative energy loss of 0.22 eV and high PCEs of over 13%. *Journal of Materials Chemistry A*, **2019**, 7, 10212-10216 | 13 | 21 |
| 120 | Toward Visibly Transparent Organic Photovoltaic Cells Based on a Near-Infrared Harvesting Bulk Heterojunction Blend. *ACS Applied Materials & Interfaces*, **2020**, 12, 32764-32770 | 9.5 | 21 |
| 119 | Influence of Covalent and Noncovalent Backbone Rigidification Strategies on the Aggregation Structures of a Wide-Band-Gap Polymer for Photovoltaic Cells. *Chemistry of Materials*, **2020**, 32, 1993-2003 | 9.6 | 21 |
| 118 | Conductive water/alcohol-soluble neutral fullerene derivative as an interfacial layer for inverted polymer solar cells with high efficiency. *ACS Applied Materials & Interfaces*, **2014**, 6, 14189-95 | 9.5 | 21 |
| 117 | Boosting the Performance of Non-Fullerene Organic Solar Cells via Cross-Linked Donor Polymers Design. *Macromolecules*, **2019**, 52, 2214-2221 | 5.5 | 21 |
| 116 | Enhancing the Photovoltaic Performance of Nonfullerene Acceptors via Conjugated Rotatable End Groups. *Advanced Energy Materials*, **2018**, 8, 1802131 | 21.8 | 21 |
| 115 | Influence of the alkyl substitution position on photovoltaic properties of 2D-BDT-based conjugated polymers. *Science China Materials*, **2015**, 58, 213-222 | 7.1 | 20 |
| 114 | Synergic Effects of Randomly Aligned SWCNT Mesh and Self-Assembled Molecule Layer for High-Performance, Low-Bandgap, Polymer Solar Cells with Fast Charge Extraction. *Advanced Materials Interfaces*, **2015**, 2, 1500324 | 4.6 | 20 |
| 113 | Synthesis and photovoltaic properties of biindene-C70 monoadduct as acceptor in polymer solar cells. *Solar Energy Materials and Solar Cells*, **2011**, 95, 1762-1766 | 6.4 | 20 |
| 112 | Recent advances in high-efficiency organic solar cells fabricated by eco-compatible solvents at relatively large-area scale. *APL Materials*, **2020**, 8, 120901 | 5.7 | 20 |
| 111 | Achieving over 10 % Efficiency in Poly(3-hexylthiophene)-Based Organic Solar Cells via Solid Additives. *ChemSusChem*, **2021**, 14, 3607-3613 | 8.3 | 20 |
| 110 | Asymmetric Wide-Bandgap Polymers Simultaneously Improve the Open-Circuit Voltage and Short-Circuit Current for Organic Photovoltaics. *Macromolecular Rapid Communications*, **2019**, 40, e1800906 | 4.8 | 20 |
| 109 | Recent progress in reducing voltage loss in organic photovoltaic cells. *Materials Chemistry Frontiers*, **2021**, 5, 709-722 | 7.8 | 20 |
| 108 | Fluorinated and non-fluorinated conjugated polymers showing different photovoltaic properties in polymer solar cells with PFNBr interlayers. *Organic Electronics*, **2016**, 28, 178-183 | 3.5 | 19 |
| 107 | Investigating the Trade-Off between Device Performance and Energy Loss in Nonfullerene Organic Solar Cells. *ACS Applied Materials & Interfaces*, **2019**, 11, 29124-29131 | 9.5 | 19 |
| 106 | Influence of the replacement of alkoxyl with alkylthienyl on photovoltaic properties of two small molecule donors for organic solar cells. *Science China Chemistry*, **2017**, 60, 1340-1348 | 7.9 | 19 |
| 105 | A p-Type Quantum Dot/Organic Donor:Acceptor Solar-Cell Structure for Extended Spectral Response. *Advanced Energy Materials*, **2011**, 1, 528-533 | 21.8 | 19 |
| 104 | Vacuum-assisted annealing method for high efficiency printable large-area polymer solar cell modules. *Journal of Materials Chemistry C*, **2019**, 7, 3206-3211 | 7.1 | 18 |

| | | | |
|---|---|---|---|
| 103 | Multifunctional bipyramid-Au@ZnO core□shell nanoparticles as a cathode buffer layer for efficient non-fullerene inverted polymer solar cells with improved near-infrared photoresponse. *Journal of Materials Chemistry A*, **2019**, 7, 2667-2676 | 13 | 18 |
| 102 | Control of aggregated structure of photovoltaic polymers for high-efficiency solar cells. *Aggregate*, **2021**, e46 | 22.9 | 18 |
| 101 | Ternary blend polymer solar cells with two non-fullerene acceptors as acceptor alloy. *Dyes and Pigments*, **2017**, 141, 388-393 | 4.6 | 17 |
| 100 | Twisted terrylene dyes: synthesis and application in organic solar cells. *Organic Chemistry Frontiers*, **2017**, 4, 811-816 | 5.2 | 17 |
| 99 | Tuning Charge Generation Process of Rylene Imide-Based Solar Cells via Chalcogen-Atom-Annulation. *Chemistry of Materials*, **2019**, 31, 3636-3643 | 9.6 | 17 |
| 98 | Organic photovoltaic cells for low light applications offering new scope and orientation. *Organic Electronics*, **2020**, 85, 105798 | 3.5 | 17 |
| 97 | Tuning the Hybridization of Local Exciton and Charge-Transfer States in Highly Efficient Organic Photovoltaic Cells. *Angewandte Chemie*, **2020**, 132, 9089-9095 | 3.6 | 17 |
| 96 | Advances in Solution-Processed All-Small-Molecule Organic Solar Cells with Non-Fullerene Electron Acceptors. *Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica*, **2018**, 34, 1202-1210 | 3.8 | 17 |
| 95 | A Universal Nonhalogenated Polymer Donor for High-Performance Organic Photovoltaic Cells. *Advanced Materials*, **2021**, e2105803 | 24 | 17 |
| 94 | Impact of Electrostatic Interaction on Bulk Morphology in Efficient Donor-Acceptor Photovoltaic Blends. *Angewandte Chemie - International Edition*, **2021**, 60, 15988-15994 | 16.4 | 17 |
| 93 | Impacts of side chain and excess energy on the charge photogeneration dynamics of low-bandgap copolymer-fullerene blends. *Journal of Chemical Physics*, **2014**, 140, 084903 | 3.9 | 16 |
| 92 | Synthesis, characterization and photovoltaic properties of poly{[1?,4?-bis-(thienyl-vinyl)]-2-methoxy-5-(2?-ethylhexyloxy)-1,4-phenylene-vinylene}. *Synthetic Metals*, **2006**, 156, 276-281 | 3.6 | 16 |
| 91 | Accurate photovoltaic measurement of organic cells for indoor applications. *Joule*, **2021**, 5, 1016-1023 | 27.8 | 16 |
| 90 | p-Doped Conducting Polyelectrolyte as an Anode Interlayer Enables High Efficiency for 1 cm Printed Organic Solar Cells. *ACS Applied Materials & Interfaces*, **2019**, 11, 20205-20213 | 9.5 | 15 |
| 89 | New Electron Acceptor Derived from Fluorene: Synthesis and Its Photovoltaic Properties. *Journal of Physical Chemistry C*, **2016**, 120, 13390-13397 | 3.8 | 15 |
| 88 | Efficient Organic Solar Cells with a High Open-Circuit Voltage of 1.34 V. *Chinese Journal of Chemistry*, **2019**, 37, 1153-1157 | 4.9 | 15 |
| 87 | Significant Effect of Fluorination on Simultaneously Improving Work Function and Transparency of Anode Interlayer for Organic Solar Cells. *Advanced Energy Materials*, **2019**, 9, 1803826 | 21.8 | 14 |
| 86 | Carbonyl Bridge-Based p-□Conjugated Polymers as High-Performance Electrodes of Organic Lithium-Ion Batteries. *ACS Applied Materials & Interfaces*, **2020**, 12, 18457-18464 | 9.5 | 14 |

| | | | |
|---|---|---|---|
| 85 | A thieno[3,4-f]isoindole-5,7-dione based copolymer for polymer solar cells. *Polymer Chemistry*, **2013**, 4, 536-541 | 4.9 | 14 |
| 84 | Multi-Functional Solid Additive Induced Favorable Vertical Phase Separation and Ordered Molecular Packing for Highly Efficient Layer-by-Layer Organic Solar Cells. *Small*, **2021**, 17, e2103497 | 11 | 14 |
| 83 | An inorganic molecule-induced electron transfer complex for highly efficient organic solar cells. *Journal of Materials Chemistry A*, **2020**, 8, 5580-5586 | 13 | 13 |
| 82 | Design of Near-Infrared Nonfullerene Acceptor with Ultralow Nonradiative Voltage Loss for High-Performance Semitransparent Ternary Organic Solar Cells.. *Angewandte Chemie - International Edition*, **2021**, | 16.4 | 13 |
| 81 | High-Performance Non-Fused Wide Bandgap Acceptor for Versatile Photovoltaic Applications. *Advanced Materials*, **2021**, e2108090 | 24 | 13 |
| 80 | Chlorinated Carbon-Bridged and Silicon-Bridged Carbazole-Based Nonfullerene Acceptors Manifest Synergistic Enhancement in Ternary Organic Solar Cell with Efficiency over 15%. *Solar Rrl*, **2020**, 4, 2000357 | 7.1 | 13 |
| 79 | Organic photovoltaic cells with high efficiencies for both indoor and outdoor applications. *Materials Chemistry Frontiers*, **2021**, 5, 893-900 | 7.8 | 13 |
| 78 | Near-infrared electron acceptors based on terrylene diimides for organic solar cells. *Journal of Materials Chemistry A*, **2018**, 6, 18808-18812 | 13 | 13 |
| 77 | Enhanced JSC of P3HT-based non-fullerene polymer solar cells by modulating aggregation effect of P3HT in solution state. *Organic Electronics*, **2019**, 68, 15-21 | 3.5 | 12 |
| 76 | Improving the open-circuit voltage of alkylthio-substituted photovoltaic polymers via post-oxidation. *Organic Electronics*, **2016**, 28, 39-46 | 3.5 | 12 |
| 75 | Delicate crystallinity control enables high-efficiency P3HT organic photovoltaic cells. *Journal of Materials Chemistry A*, **2022**, | 13 | 12 |
| 74 | Advances and prospective in thermally stable nonfullerene polymer solar cells. *Science China Chemistry*, **2021**, 64, 1875 | 7.9 | 12 |
| 73 | Recent progress in organic solar cells (Part II device engineering). *Science China Chemistry*, | 7.9 | 12 |
| 72 | Control of Donor–Acceptor Photophysics through Structural Modification of a "Twisting" Push–Pull Molecule. *Chemistry of Materials*, **2019**, 31, 6860-6869 | 9.6 | 11 |
| 71 | Efficient Exciton Dissociation Enabled by the End Group Modification in Non-Fullerene Acceptors. *Journal of Physical Chemistry C*, **2020**, 124, 7691-7698 | 3.8 | 11 |
| 70 | Effect of fluorination and symmetry on the properties of polymeric photovoltaic materials based on an asymmetric building block. *RSC Advances*, **2016**, 6, 90051-90060 | 3.7 | 11 |
| 69 | Thinner-film plastic photovoltaic cells based on different C60 derivatives. *Polymers for Advanced Technologies*, **2006**, 17, 500-505 | 3.2 | 11 |
| 68 | TCNQ as a volatilizable morphology modulator enables enhanced performance in non-fullerene organic solar cells. *Journal of Materials Chemistry C*, **2020**, 8, 44-49 | 7.1 | 11 |

| | | | |
|---|---|---|---|
| 67 | PTV-based p-type organic semiconductors: Candidates for low-cost photovoltaic donors with simple synthetic routes. *Polymer*, **2020**, 209, 122900 | 3.9 | 11 |
| 66 | Suppressing trap states and energy loss by optimizing vertical phase distribution through ternary strategy in organic solar cells. *Science China Chemistry*, **2021**, 64, 599-607 | 7.9 | 11 |
| 65 | Fluorination strategy enables greatly improved performance for organic solar cells based on polythiophene derivatives. *Chinese Chemical Letters*, **2021**, 32, 2274-2278 | 8.1 | 11 |
| 64 | Effects on the photovoltaic properties of copolymers with five-membered chalcogen-heterocycle bridges. *Polymer Chemistry*, **2020**, 11, 5019-5028 | 4.9 | 10 |
| 63 | A round robin study of polymer solar cells and small modules across China. *Solar Energy Materials and Solar Cells*, **2013**, 117, 382-389 | 6.4 | 10 |
| 62 | Precise Characterization of Performance Metrics of Organic Solar Cells. *Small Methods*, **2017**, 1, 1700159 | 12.8 | 10 |
| 61 | Fluorescence and sensitization performance of phenylene-vinylene-substituted polythiophene. *Science Bulletin*, **2009**, 54, 1669-1676 | 10.6 | 10 |
| 60 | Probing film-depth-related light harvesting in polymer solar cells via plasma etching. *AIP Advances*, **2017**, 7, 045312 | 1.5 | 10 |
| 59 | Highly Stable Organic Solar Cells Based on an Ultraviolet-Resistant Cathode Interfacial Layer. *CCS Chemistry*,1059-1069 | 7.2 | 10 |
| 58 | Simultaneous Improvement of Efficiency and Stability of Organic Photovoltaic Cells by using a Cross-Linkable Fullerene Derivative. *Small*, **2021**, 17, e2101133 | 11 | 10 |
| 57 | Effectively Improving Extinction Coefficient of Benzodithiophene and Benzodithiophenedione-based Photovoltaic Polymer by Grafting Alkylthio Functional Groups. *Chemistry - an Asian Journal*, **2016**, 11, 2650-2655 | 4.5 | 10 |
| 56 | Optimizing polymer aggregation and blend morphology for boosting the photovoltaic performance of polymer solar cells via a random terpolymerization strategy. *Journal of Energy Chemistry*, **2021**, 59, 30-37 | 12 | 10 |
| 55 | Research Progress of Tandem Organic Solar Cells. *Acta Chimica Sinica*, **2020**, 78, 382 | 3.3 | 9 |
| 54 | Study of photovoltaic performances for asymmetrical and symmetrical chlorinated thiophene-bridge-based conjugated polymers. *Journal of Materials Chemistry C*, **2020**, 8, 2301-2306 | 7.1 | 9 |
| 53 | Inorganic Molecular Clusters with Facile Preparation and Neutral pH for Efficient Hole Extraction in Organic Solar Cells. *ACS Applied Materials & Interfaces*, **2020**, 12, 39462-39470 | 9.5 | 9 |
| 52 | Effect of solvent additive on active layer morphologies and photovoltaic performance of polymer solar cells based on PBDTTT-C-T/PC71BM. *RSC Advances*, **2016**, 6, 51924-51931 | 3.7 | 9 |
| 51 | Optimization of active layer morphology by small-molecule donor design enables over 15% efficiency in small-molecule organic solar cells. *Journal of Materials Chemistry A*, **2021**, 9, 13653-13660 | 13 | 9 |
| 50 | Synthesis and photovoltaic properties of polythiophene derivatives with side chains containing C60 end group. *Journal of Applied Polymer Science*, **2010**, 115, 532-539 | 2.9 | 8 |

| | | | |
|---|---|---|---|
| 49 | Increased conjugated backbone twisting to improve carbonylated-functionalized polymer photovoltaic performance. *Organic Chemistry Frontiers*, **2020**, 7, 261-266 | 5.2 | 8 |
| 48 | Miscibility Control by Tuning Electrostatic Interactions in Bulk Heterojunction for Efficient Organic Solar Cells **2021**, 3, 1276-1283 | | 8 |
| 47 | Progress in Organic Solar Cells: Materials, Physics and Device Engineering. *Chinese Journal of Chemistry*, **2021**, 39, 2607-2625 | 4.9 | 8 |
| 46 | The investigations of two conjugated polymers that show distinctly different photovoltaic properties in polymer solar cells. *Organic Electronics*, **2017**, 44, 42-49 | 3.5 | 7 |
| 45 | Enhanced photovoltaic effect from naphtho[2,3-c]thiophene-4,9-dione-based polymers through alkyl side chain induced backbone distortion. *Journal of Materials Chemistry A*, **2020**, 8, 14706-14712 | 13 | 7 |
| 44 | Quantifying Voc loss induced by alkyl pendants of acceptors in organic solar cells. *Journal of Materials Chemistry C*, **2020**, 8, 12568-12577 | 7.1 | 7 |
| 43 | Modulation of terminal alkyl chain length enables over 15% efficiency in small-molecule organic solar cells. *Science China Chemistry*, **2021**, 64, 1200-1207 | 7.9 | 7 |
| 42 | Reduced Nonradiative Recombination Energy Loss Enabled Efficient Polymer Solar Cells via Tuning Alkyl Chain Positions on Pendent Benzene Units of Polymers. *ACS Applied Materials & Interfaces*, **2020**, 12, 24184-24191 | 9.5 | 6 |
| 41 | Terrylene diimide-based middle-low bandgap electron acceptors for organic photovoltaics. *Journal of Materials Chemistry C*, **2020**, 8, 4441-4446 | 7.1 | 6 |
| 40 | Modulation of Building Block Size in Conjugated Polymers with D□A Structure for Polymer Solar Cells. *Macromolecules*, **2019**, 52, 7929-7938 | 5.5 | 6 |
| 39 | Fluidic Manipulating of Printable Zinc Oxide for Flexible Organic Solar Cells. *Advanced Materials*, **2021**, e2106453 | 24 | 6 |
| 38 | Development of Benzodithiophene-Based A-D-A Small Molecules with Different Acceptor End Groups for Efficient Organic Solar Cells. *Wuli Huaxue Xuebao/ Acta Physico - Chimica Sinica*, **2019**, 35, 76-83 | 3.8 | 6 |
| 37 | Solution-Processed Silver Nanowire as Flexible Transparent Electrodes in Organic Solar Cells. *Chinese Journal of Chemistry*, **2021**, 39, 2315-2329 | 4.9 | 6 |
| 36 | Low-cost and efficient organic solar cells based on polythiophene- and poly(thiophene vinylene)-related donors. *Aggregate*,e111 | 22.9 | 6 |
| 35 | High-Efficiency ITO-Free Organic Photovoltaics with Superior Flexibility and Up-Scalability.. *Advanced Materials*, **2022**, e2200044 | 24 | 6 |
| 34 | Conjugated Polymers Containing Sulfonic Acid Fluorene Unit for Achieving Multiple Interfacial Modifications in Fullerene-free Organic Solar Cells. *Journal of Physical Chemistry C*, **2018**, 122, 19328-19337 | 3.8 | 5 |
| 33 | A triptycene-cored perylenediimide derivative and its application in organic solar cells as a non-fullerene acceptor. *New Journal of Chemistry*, **2017**, 41, 10237-10244 | 3.6 | 5 |
| 32 | Squaraine organic crystals with strong dipole effect toward stable lithium-organic batteries. *Energy Storage Materials*, **2021**, 41, 240-247 | 19.4 | 5 |

| | | | |
|---|---|---|---|
| 31 | A New PEDOT Derivative for Efficient Organic Solar Cell with a Fill Factor of 0.80. *Advanced Energy Materials*,2103892 | 21.8 | 5 |
| 30 | Mapping the energy level alignment at donor/acceptor interfaces in non-fullerene organic solar cells.. *Nature Communications*, **2022**, 13, 2046 | 17.4 | 5 |
| 29 | The Crucial Role of Chlorinated Thiophene Orientation in Conjugated Polymers for Photovoltaic Devices. *Angewandte Chemie*, **2018**, 130, 13093-13097 | 3.6 | 4 |
| 28 | Solution-processable perylene diimide based star-shaped small molecule acceptor: synthesis and photovoltaic properties **2014**, | | 4 |
| 27 | Branched poly(p-phenylenevinylene): Synthesis, optical and electrochemical properties. *Journal of Applied Polymer Science*, **2008**, 110, 1002-1008 | 2.9 | 4 |
| 26 | Non-fullerene acceptor pre-aggregates enable high efficiency pseudo-bulk heterojunction organic solar cells. *Science China Chemistry*,1 | 7.9 | 4 |
| 25 | Suppressing Energetic Disorder Enables Efficient Indoor Organic Photovoltaic Cells With a PTV Derivative. *Frontiers in Chemistry*, **2021**, 9, 684241 | 5 | 4 |
| 24 | Dependence of Excited-State Properties of a Low-Bandgap Photovoltaic Copolymer on Side-Chain Substitution and Solvent. *ChemSusChem*, **2016**, 9, 1623-33 | 8.3 | 4 |
| 23 | The Importance of End Groups for Solution-Processed Small-Molecule Bulk-Heterojunction Photovoltaic Cells. *ChemSusChem*, **2016**, 9, 973-80 | 8.3 | 4 |
| 22 | Organic Solar Cells: High Efficiency Organic Solar Cells Achieved by the Simultaneous Plasmon-Optical and Plasmon-Electrical Effects from Plasmonic Asymmetric Modes of Gold Nanostars (Small 37/2016). *Small*, **2016**, 12, 5102-5102 | 11 | 4 |
| 21 | Design of ultra-high luminescent polymers for organic photovoltaic cells with low energy loss. *Chemical Communications*, **2021**, 57, 9132-9135 | 5.8 | 4 |
| 20 | Solar Cells: Surpassing 10% Efficiency Benchmark for Nonfullerene Organic Solar Cells by Scalable Coating in Air from Single Nonhalogenated Solvent (Adv. Mater. 8/2018). *Advanced Materials*, **2018**, 30, 1870054 | 24 | 3 |
| 19 | Structural Transitions in Solution-Cast Films of a New AABB Type Thiophene Copolymer. *Macromolecules*, **2016**, 49, 8653-8660 | 5.5 | 3 |
| 18 | Heavy-Atom-Free Room-Temperature Phosphorescent Rylene Imide for High-Performing Organic Photovoltaics. *Advanced Science*, **2021**, e2103975 | 13.6 | 3 |
| 17 | Effect of alkyl side chains of twisted conjugated polymer donors on photovoltaic performance. *Polymer*, **2021**, 218, 123475 | 3.9 | 3 |
| 16 | Elucidating End-Group Modifications of Carbazole-Based Nonfullerene Acceptors in Indoor Applications for Achieving a PCE of over 20. *ACS Applied Materials & Interfaces*, **2021**, 13, 26247-26255 | 8.5 | 3 |
| 15 | Impact of Electrostatic Interaction on Bulk Morphology in Efficient Donor–Acceptor Photovoltaic Blends. *Angewandte Chemie*, **2021**, 133, 16124-16130 | 3.6 | 3 |
| 14 | Heating-induced aggregation control for efficient sequential-cast organic solar cells. *Aggregate*,e104 | 22.9 | 3 |

| | | | |
|---|---|---|---|
| 13 | Terthiophene based non-fused electron acceptors for efficient organic solar cells. *Organic Electronics*, **2022**, 105, 106512 | 3.5 | 3 |
| 12 | Conjugated Polymer Photovoltaic Materials. *Lecture Notes in Quantum Chemistry II*, **2015**, 195-239 | 0.6 | 2 |
| 11 | Solar Cells: A Star-Shaped Perylene Diimide Electron Acceptor for High-Performance Organic Solar Cells (Adv. Mater. 30/2014). *Advanced Materials*, **2014**, 26, 5224-5224 | 24 | 2 |
| 10 | Subnanosecond charge photogeneration and recombination in polyfluorene copolymer-fullerene solar cell: effects of electric field. *Optics Express*, **2013**, 21 Suppl 2, A241-9 | 3.3 | 2 |
| 9 | Impact of the Hole Transport Layer on the Charge Extraction of Ruddlesden-Popper Perovskite Solar Cells. *ACS Applied Materials & Interfaces*, **2020**, 12, 29505-29512 | 9.5 | 1 |
| 8 | Photovoltaics: Quantification of Nano- and Mesoscale Phase Separation and Relation to Donor and Acceptor Quantum Efficiency, Jsc, and FF in Polymer:Fullerene Solar Cells (Adv. Mater. 25/2014). *Advanced Materials*, **2014**, 26, 4399-4399 | 24 | 1 |
| 7 | Non-Fullerene Molecules: Hybrid Perovskite Quantum Dot/Non-Fullerene Molecule Solar Cells with Efficiency Over 15% (Adv. Funct. Mater. 27/2021). *Advanced Functional Materials*, **2021**, 31, 2170196 | 15.6 | 1 |
| 6 | Influence of Large Steric Hinderance Substituent Position on Conformation and Charge Transfer Process for Non-Fused Ring Acceptors.. *Small Methods*, **2022**, e2200007 | 12.8 | 1 |
| 5 | Terminal alkyl chain tuning of small molecule donor enables optimized morphology and efficient all-small-molecule organic solar cells. *Dyes and Pigments*, **2022**, 200, 110147 | 4.6 | 1 |
| 4 | Facile solution-processed molybdenum oxide as hole transporting material for efficient organic solar cell. *Journal of Energy Chemistry*, **2022**, 69, 108-114 | 12 | 0 |
| 3 | Probing molecular orientation at bulk heterojunctions by polarization-selective transient absorption spectroscopy. *Science China Chemistry*, **2021**, 64, 1569-1576 | 7.9 | 0 |
| 2 | Solar Cells: Enhancing the Performance of the Half Tin and Half Lead Perovskite Solar Cells by Suppression of the Bulk and Interfacial Charge Recombination (Adv. Mater. 35/2018). *Advanced Materials*, **2018**, 30, 1870263 | 24 | |
| 1 | Optimized Charge Transport Channel Enables Thick-Film All-Small-Molecule Organic Solar Cells. *Energy & Fuels*, **2021**, 35, 19756-19764 | 4.1 | |