

Doojin Vak

List of Publications by Year in descending order

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papers

5,701
citations

66343

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79698

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76
times ranked

7243
citing authors

#	ARTICLE	IF	CITATIONS
1	Toward Large Scale Roll-to-Roll Production of Fully Printed Perovskite Solar Cells. <i>Advanced Materials</i> , 2015, 27, 1241-1247.	21.0	785
2	One-step roll-to-roll air processed high efficiency perovskite solar cells. <i>Nano Energy</i> , 2018, 46, 185-192.	16.0	271
3	Three-Dimensional Bulk Heterojunction Morphology for Achieving High Internal Quantum Efficiency in Polymer Solar Cells. <i>Advanced Functional Materials</i> , 2009, 19, 2398-2406.	14.9	236
4	Fabrication of organic bulk heterojunction solar cells by a spray deposition method for low-cost power generation. <i>Applied Physics Letters</i> , 2007, 91, .	3.3	228
5	3D Printer Based Slot-Die Coater as a Lab-to-Fab Translation Tool for Solution-Processed Solar Cells. <i>Advanced Energy Materials</i> , 2015, 5, 1401539.	19.5	196
6	Water-Soluble Polyfluorenes as an Interfacial Layer Leading to Cathode-Independent High Performance of Organic Solar Cells. <i>Advanced Functional Materials</i> , 2010, 20, 1977-1983.	14.9	195
7	Organic Solar Cells Using a High-Molecular-Weight Benzodithiophene-Benzothiadiazole Copolymer with an Efficiency of 9.4%. <i>Advanced Materials</i> , 2015, 27, 702-705.	21.0	188
8	Mechanical integrity of solution-processed perovskite solar cells. <i>Extreme Mechanics Letters</i> , 2016, 9, 353-358.	4.1	150
9	Self-Assembled 2D Perovskite Layers for Efficient Printable Solar Cells. <i>Advanced Energy Materials</i> , 2019, 9, 1803258.	19.5	149
10	Amorphous hole-transporting layer in slot-die coated perovskite solar cells. <i>Nano Energy</i> , 2017, 31, 210-217.	16.0	142
11	An inter-laboratory stability study of roll-to-roll coated flexible polymer solar modules. <i>Solar Energy Materials and Solar Cells</i> , 2011, 95, 1398-1416.	6.2	132
12	Effect of Cation Composition on the Mechanical Stability of Perovskite Solar Cells. <i>Advanced Energy Materials</i> , 2018, 8, 1702116.	19.5	130
13	A New Poly(thienylenevinylene) Derivative with High Mobility and Oxidative Stability for Organic Thin-Film Transistors and Solar Cells. <i>Advanced Materials</i> , 2009, 21, 2808-2814.	21.0	118
14	Manufacturing cost and market potential analysis of demonstrated roll-to-roll perovskite photovoltaic cell processes. <i>Solar Energy Materials and Solar Cells</i> , 2018, 174, 314-324.	6.2	113
15	Solution Processable Fluorenyl Hexa-peri-hexabenzocoronenes in Organic Field-Effect Transistors and Solar Cells. <i>Advanced Functional Materials</i> , 2010, 20, 927-938.	14.9	109
16	Slot die coated planar perovskite solar cells via blowing and heating assisted one step deposition. <i>Solar Energy Materials and Solar Cells</i> , 2018, 179, 80-86.	6.2	104
17	Organic photovoltaic modules fabricated by an industrial gravure printing proofer. <i>Solar Energy Materials and Solar Cells</i> , 2013, 109, 47-55.	6.2	103
18	Fully spray-coated ITO-free organic solar cells for low-cost power generation. <i>Solar Energy Materials and Solar Cells</i> , 2010, 94, 1333-1337.	6.2	101

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19	Humidity-tolerant Roll-to-Roll Fabrication of Perovskite Solar Cells via Polymer-Assisted Hot Slot Die Deposition. <i>Advanced Functional Materials</i> , 2019, 29, 1809194.	14.9	93
20	Printing-friendly sequential deposition via intra-additive approach for roll-to-roll process of perovskite solar cells. <i>Nano Energy</i> , 2017, 41, 443-451.	16.0	91
21	Hot slot die coating for additive-free fabrication of high performance roll-to-roll processed polymer solar cells. <i>Energy and Environmental Science</i> , 2018, 11, 3248-3255.	30.8	85
22	Photodynamic Properties of Azobenzene Molecular Films with Triphenylamines. <i>Chemistry of Materials</i> , 2003, 15, 4021-4027.	6.7	83
23	Water-Soluble Polyfluorenes as an Electron Injecting Layer in PLEDs for Extremely High Quantum Efficiency. <i>Advanced Materials</i> , 2008, 20, 1624-1629.	21.0	83
24	ITO-Free Flexible Perovskite Solar Cells Based on Roll-to-Roll, Slot-Die Coated Silver Nanowire Electrodes. <i>Solar Rrl</i> , 2017, 1, 1700059.	5.8	78
25	Synthesis of a New Cross-Linkable Perfluorocyclobutane-Based Hole-Transport Material. <i>Organic Letters</i> , 2006, 8, 4703-4706.	4.6	73
26	Surface plasmon enhanced photoluminescence of conjugated polymers. <i>Applied Physics Letters</i> , 2007, 90, 161107.	3.3	70
27	How reliable are efficiency measurements of perovskite solar cells? The first inter-comparison, between two accredited and eight non-accredited laboratories. <i>Journal of Materials Chemistry A</i> , 2017, 5, 22542-22558.	10.3	70
28	Synthesis of a Double Spiro-Polyindenofluorene with a Stable Blue Emission. <i>Organic Letters</i> , 2005, 7, 4229-4232.	4.6	69
29	Crystallisation control of drop-cast quasi-2D/3D perovskite layers for efficient solar cells. <i>Communications Materials</i> , 2020, 1, .	6.9	66
30	Novel cationic water-soluble polyfluorene derivatives with ion-transporting side groups for efficient electron injection in PLEDs. <i>Organic Electronics</i> , 2007, 8, 773-783.	2.6	65
31	High Performance Roll-to-Roll Produced Fullerene-Free Organic Photovoltaic Devices via Temperature-Controlled Slot Die Coating. <i>Advanced Functional Materials</i> , 2019, 29, 1805825.	14.9	64
32	Slot-Die and Roll-to-Roll Processed Single Junction Organic Photovoltaic Cells with the Highest Efficiency. <i>Advanced Energy Materials</i> , 2019, 9, 1901805.	19.5	62
33	A novel spiro-functionalized polyfluorene derivative with solubilizing side chains. <i>Journal of Materials Chemistry</i> , 2004, 14, 1342.	6.7	60
34	A porphyrin-hexa-peri-hexabenzocoronene-porphyrin triad: synthesis, photophysical properties and performance in a photovoltaic device. <i>Journal of Materials Chemistry</i> , 2010, 20, 7005.	6.7	60
35	Photonic Sintering of Copper through the Controlled Reduction of Printed CuO Nanocrystals. <i>ACS Applied Materials & Interfaces</i> , 2015, 7, 25473-25478.	8.0	57
36	Back-contacted hybrid organic-inorganic perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2016, 4, 3125-3130.	5.5	54

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37	Progress in Scalable Coating and Roll-to-Roll Compatible Printing Processes of Perovskite Solar Cells toward Realization of Commercialization. <i>Advanced Optical Materials</i> , 2018, 6, 1701182.	7.3	52
38	Synthesis and Characterization of Spiro-Triphenylamine Configured Polyfluorene Derivatives with Improved Hole Injection. <i>Macromolecules</i> , 2006, 39, 6433-6439.	4.8	50
39	A novel azobenzene-based amorphous molecular material with a spiro linked bifluorene. <i>Journal of Materials Chemistry</i> , 2003, 13, 2904.	6.7	48
40	Cationic Conjugated Polyelectrolytes with Molecular Spacers for Efficient Fluorescence Energy Transfer to Dye-Labeled DNA. <i>Advanced Functional Materials</i> , 2007, 17, 290-295.	14.9	47
41	Factors to be Considered in Bulk Heterojunction Polymer Solar Cells Fabricated by the Spray Process. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2010, 16, 1838-1846.	2.9	47
42	Reverse gravure coating for roll-to-roll production of organic photovoltaics. <i>Solar Energy Materials and Solar Cells</i> , 2016, 149, 154-161.	6.2	46
43	Silver Nanocrystal-Modified Silicon Nanowires as Substrates for Surface-Enhanced Raman and Hyper-Raman Scattering. <i>Analytical Chemistry</i> , 2006, 78, 6279-6282.	6.5	42
44	A Lab-to-Fab Study toward Roll-to-Roll Fabrication of Reproducible Perovskite Solar Cells under Ambient Room Conditions. <i>Cell Reports Physical Science</i> , 2021, 2, 100293.	5.6	39
45	Optical Properties of Perfluorocyclobutane Aryl Ether Polymers for Polymer Photonic Devices. <i>Macromolecules</i> , 2004, 37, 5724-5731.	4.8	37
46	Development of a High-Performance Donor-Acceptor Conjugated Polymer: Synergy in Materials and Device Optimization. <i>Chemistry of Materials</i> , 2016, 28, 3481-3487.	6.7	35
47	Characterization of a high-thermal-stability spiroanthracenefluorene-based blue-light-emitting polymer optical gain medium. <i>Journal of Applied Physics</i> , 2005, 98, 083101.	2.5	33
48	Synthesis of novel arylamine containing perfluorocyclobutane and its electrochromic properties. <i>Journal of Materials Chemistry</i> , 2009, 19, 2380.	6.7	32
49	Organic Photovoltaics™ New Renaissance: Advances Toward Roll-to-Roll Manufacturing of Non-Fullerene Acceptor Organic Photovoltaics. <i>Advanced Materials Technologies</i> , 2022, 7, .	5.8	32
50	Differentially pumped spray deposition as a rapid screening tool for organic and perovskite solar cells. <i>Scientific Reports</i> , 2016, 6, 20357.	3.3	30
51	New barrier encapsulation and lifetime assessment of printed organic photovoltaic modules. <i>Solar Energy Materials and Solar Cells</i> , 2016, 155, 108-116.	6.2	30
52	Controlling Homogenous Spherulitic Crystallization for High-Efficiency Planar Perovskite Solar Cells Fabricated under Ambient High-Humidity Conditions. <i>Small</i> , 2019, 15, e1904422.	10.0	30
53	Ambipolar Hexa-peri-hexabenzocoronene~Fullerene Hybrid Materials. <i>Organic Letters</i> , 2010, 12, 5000-5003.	4.6	29
54	Machine learning-assisted development of organic photovoltaics via high-throughput in situ formulation. <i>Energy and Environmental Science</i> , 2021, 14, 3438-3446.	30.8	29

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55	Beyond Fullerenes: Indacenodithiophene-Based Organic Charge-Transport Layer toward Upscaling of Low-Cost Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 22143-22155.	8.0	27
56	Blue electroluminescence from spiro-configured polyfluorene derivatives with hetero-atoms. <i>Journal of Luminescence</i> , 2005, 115, 109-116.	3.1	26
57	Surface-enhanced resonance Raman and hyper-Raman spectroscopy of water-soluble substituted stilbene and distyrylbenzene chromophores. <i>Journal of Raman Spectroscopy</i> , 2006, 37, 132-141.	2.5	26
58	Solvent effects on resonant first hyperpolarizabilities and Raman and hyper-Raman spectra of DANS and a water-soluble analog. <i>Journal of Chemical Physics</i> , 2006, 125, 054506.	3.0	25
59	Effect of photo- and thermo-oxidative degradation on the performance of hybrid photovoltaic cells with a fluorene-based copolymer and nanocrystalline TiO ₂ . <i>Journal of Materials Chemistry</i> , 2008, 18, 654-659.	6.7	24
60	Improving the Stability of Ambient Processed, SnO ₂ -Based, Perovskite Solar Cells by the UV- γ Treatment of Substrates. <i>Solar Rrl</i> , 2020, 4, 2000262.	5.8	21
61	Optically monitored spray coating system for the controlled deposition of the photoactive layer in organic solar cells. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	18
62	A stability study of roll-to-roll processed organic photovoltaic modules containing a polymeric electron-selective layer. <i>Solar Energy Materials and Solar Cells</i> , 2016, 152, 133-140.	6.2	16
63	Roll-to-roll compatible quinoxaline-based polymers toward high performance polymer solar cells. <i>Journal of Materials Chemistry A</i> , 2020, 8, 25208-25216.	10.3	14
64	Can Laminated Carbon Challenge Gold? Toward Universal, Scalable, and Low-Cost Carbon Electrodes for Perovskite Solar Cells. <i>Advanced Materials Technologies</i> , 2022, 7, 2101148.	5.8	14
65	Efficient single-component light-emitting electrochemical cells with an ion-conducting water-soluble polyfluorene. <i>Applied Physics Letters</i> , 2009, 94, .	3.3	13
66	Solution Processable Monosubstituted Hexa <i>peri</i> -Hexabenzocoronene Self-Assembling Dyes. <i>Advanced Functional Materials</i> , 2012, 22, 2015-2026.	14.9	13
67	Microfluidic Processing of Ligand-Engineered NiO Nanoparticles for Low-Temperature Hole-Transporting Layers in Perovskite Solar Cells. <i>Solar Rrl</i> , 2021, 5, 2100342.	5.8	11
68	Synthesis and fluorescence study of water-soluble conjugated polymers for efficient FRET-based DNA detection. <i>Current Applied Physics</i> , 2009, 9, 636-642.	2.4	9
69	Non-Aqueous One-Pot SnO ₂ Nanoparticle Inks and Their Use in Printable Perovskite Solar Cells. <i>Chemistry of Materials</i> , 2022, 34, 5535-5545.	6.7	7
70	Synthesis of Poly(p-phenylene-vinylene) Derivatives Containing an Oxadiazole Pendant Group and Their Applications to Organic Electronic Devices. <i>Journal of Nanoscience and Nanotechnology</i> , 2013, 13, 3321-3330.	0.9	4
71	Sequent spray deposition of secondary solvent for efficient polymer solar cells. <i>Macromolecular Research</i> , 2015, 23, 696-703.	2.4	4
72	Photovoltaic Devices: Slot-Die and Roll-to-Roll Processed Single Junction Organic Photovoltaic Cells with the Highest Efficiency (<i>Adv. Energy Mater.</i> 36/2019). <i>Advanced Energy Materials</i> , 2019, 9, 1970138.	19.5	3

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73	Photovoltaic Devices: High Performance Roll-to-Roll Produced Fullerene-Free Organic Photovoltaic Devices via Temperature-Controlled Slot Die Coating (Adv. Funct. Mater. 6/2019). Advanced Functional Materials, 2019, 29, 1970037.	14.9	1
74	Slot Die Coating of CIGS Nanoparticle Inks for Scalable Solution Processed Photovoltaics. , 2019, , .		1
75	Water-Soluble Conjugated Polyelectrolytes with Molecular Bumper for Efficient FRET Biosensor. Materials Research Society Symposia Proceedings, 2006, 965, 1.	0.1	0