Warwick J Belcher

List of Publications by Year
in descending order

123 papers	3,733 citations	109321 35 h-index	144013 57 g-index
126 all docs	126 docs citations	126 times ranked	4285 citing authors

#	Article	IF	Citations
1	A Quantitative Study of PCBM Diffusion during Annealing of P3HT:PCBM Blend Films. Macromolecules, 2009, 42, 8392-8397.	4.8	247
2	Slow Anion Exchange, Conformational Equilibria, and Fluorescent Sensing in Venus Flytrap Aminopyridinium-Based Anion Hosts. Journal of the American Chemical Society, 2003, 125, 9699-9715.	13.7	194
3	Vertical Stratification and Interfacial Structure in P3HT:PCBM Organic Solar Cells. Journal of Physical Chemistry C, 2010, 114, 15797-15805.	3.1	132
4	Channel-containing 1D coordination polymers based on a linear dimetallic spacer. Chemical Communications, 2002, , 1602-1603.	4.1	113
5	Nanoscale Quantitative Chemical Mapping of Conjugated Polymer Blends. Nano Letters, 2006, 6, 1202-1206.	9.1	112
6	Organic Solar Cells: Understanding the Role of FÃ¶rster Resonance Energy Transfer. International Journal of Molecular Sciences, 2012, 13, 17019-17047.	4.1	111
7	A projection of commercial-scale organic photovoltaic module costs. Solar Energy Materials and Solar Cells, 2014, 120, 9-17.	6.2	110
8	Preparation of group 15 (phosphorus, antimony, and bismuth) complexes of meso-tetra-p-tolylporphyrin (TTP) and x-ray crystal structure of [Sb(TTP)(OCH(CH3)2)2]Cl. Inorganic Chemistry, 1992, 31, 746-754.	4.0	98
9	Organic Thin-Film Transistor (OTFT)-Based Sensors. Electronics (Switzerland), 2014, 3, 234-254.	3.1	93
10	The role of miscibility in polymer:fullerene nanoparticulate organic photovoltaic devices. Nano Energy, 2013, 2, 897-905.	16.0	82
11	Nano-pathways: Bridging the divide between water-processable nanoparticulate and bulk heterojunction organic photovoltaics. Nano Energy, 2016, 19, 495-510.	16.0	75
12	Cooperative anion binding and electrochemical sensing by modular podands. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5001-5006.	7.1	74
13	Determining the structural motif of P3HT:PCBM nanoparticulate organic photovoltaic devices. Solar Energy Materials and Solar Cells, 2013, 110, 43-48.	6.2	73
14	Understanding and Improving Solid-State Polymer/C60-Fullerene Bulk-Heterojunction Solar Cells Using Ternary Porphyrin Blends. Journal of Physical Chemistry C, 2007, 111, 15415-15426.	3.1	72
15	Oxonium Ions from Aqua Regia:Â Isolation by Hydrogen Bonding to Crown Ethers. Inorganic Chemistry, 2001, 40, 4978-4985.	4.0	69
16	A multilayered approach to polyfluorene water-based organic photovoltaics. Solar Energy Materials and Solar Cells, 2012, 102, 114-124.	6.2	65
17	Levelised cost of electricity for organic photovoltaics. Solar Energy Materials and Solar Cells, 2015, 133, 26-31.	6.2	63
18	Nano-domain behaviour in P3HT:PCBM nanoparticles, relating material properties to morphological changes. Solar Energy Materials and Solar Cells, 2013, 117, 437-445.	6.2	60

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19	New Coordination Mode for the Porphyrin Ligand in the Boron Porphyrin Complex B2OF2(TTP). Journal of the American Chemical Society, 1994, 116, 8416-8417.	13.7	59
20	X-ray Spectromicroscopy of Polymer/Fullerene Composites: Quantitative Chemical Mapping. Small, 2006, 2, 1432-1435.	10.0	57
21	Pyridinium CHâ‹¯anion and Ï€-stacking interactions in modular tripodal anion binding hosts: ATP binding and solid-state chiral induction. Organic and Biomolecular Chemistry, 2006, 4, 781.	2.8	56
22	Electrochemical Studies on the Modular Podand 1,3,5-Tris(3-((ferrocenylmethyl)amino)pyridiniumyl)-2,4,6-triethylbenzene Hexafluorophosphate in Conventional Solvents and Ionic Liquids. Journal of Physical Chemistry B, 2003, 107, 5777-5786.	2.6	54
23	Scanning transmission x-ray microscopy of polymer nanoparticles: probing morphology on sub-10 nm length scales. Nanotechnology, 2011, 22, 265710.	2.6	50
24	Surfactant-free nanoparticulate organic photovoltaics. Solar Energy Materials and Solar Cells, 2014, 121, 99-107.	6.2	50
25	Anion sensing â€˜venus flytrapâ€™ hosts: a modular approach. Chemical Communications, 2002, , 358-359.	4.1	49
26	Oxo-anion binding by metal containing molecular â€˜cleftsâ€™. Journal of Organometallic Chemistry, 2003, 666, 63-74.	1.8	47
27	Evolution of the nanomorphology of photovoltaic polyfluorene blends: sub-100 nm resolution with x-ray spectromicroscopy. Nanotechnology, 2008, 19, 424015.	2.6	47
28	The effect of polymer molecular weight on P3HT:PCBM nanoparticulate organic photovoltaic device performance. Solar Energy Materials and Solar Cells, 2014, 128, 369-377.	6.2	47
29	Fullerene Contribution to Photocurrent Generation in Organic Photovoltaic Cells. Journal of Physical Chemistry C, 2011, 115, 7801-7805.	3.1	45
30	Evolution of Laterally Phase-Separated Polyfluorene Blend Morphology Studied by X-ray Spectromicroscopy. Macromolecules, 2009, 42, 3347-3352.	4.8	43
31	Role of Solvent Trapping Effects in Determining the Structure and Morphology of Ternary Blend Organic Devices. Macromolecules, 2009, 42, 3098-3103.	4.8	42
32	A Porphyrin as a Binucleating Ligand: Preparation and Crystal Structure of a Porphyrin Complex Containing a Coordinated B2O2 Ring. Angewandte Chemie - International Edition, 1998, 37, 1112-1114.	13.8	40
33	The origin of performance limitations in miniemulsion nanoparticulate organic photovoltaic devices. Solar Energy Materials and Solar Cells, 2018, 175, 77-88.	6.2	38
34	A low-cost mixed fullerene acceptor blend for printed electronics. Journal of Materials Chemistry A, 2016, 4, 10274-10281.	10.3	37
35	Combining Printing, Coating, and Vacuum Deposition on the Roll-to-Roll Scale: A Hybrid Organic Photovoltaics Fabrication. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 112-125.	2.9	36
36	Intramolecular binding site competition as a means of tuning the response of a colourimetric anion sensor. New Journal of Chemistry, 2008, 32, 786.	2.8	35

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37	Probing the origin of photocurrent in nanoparticulate organic photovoltaics. Solar Energy Materials and Solar Cells, 2015, 140, 412-421.	6.2	35
38	Fully roll-to-roll prepared organic solar cells in normal geometry with a sputter-coated aluminium top-electrode. Solar Energy Materials and Solar Cells, 2016, 149, 103-109.	6.2	35
39	A study of the factors influencing the performance of ternary MEH-PPV:porphyrin:PCBM heterojunction devices: A steric approach to controlling charge recombination. Solar Energy Materials and Solar Cells, 2011, 95, 1767-1774.	6.2	34
40	Electrochemical and Spectroelectrochemical Investigations of [(TpTP)MvL2]+Cl- Where TpTP Is the Dianion of Tetra-p-tolylporphyrin, M = P or Sb, and L = Cl- or OCH3-. Inorganic Chemistry, 1994, 33, 4480-4484.	4.0	32
41	Utilizing Energy Transfer in Binary and Ternary Bulk Heterojunction Organic Solar Cells. ACS Applied Materials & Interfaces, 2016, 8, 20928-20937.	8.0	32
42	Rollâ€toâ€Roll Sputter Coating of Aluminum Cathodes for Largeâ€Scale Fabrication of Organic Photovoltaic Devices. Energy Technology, 2015, 3, 428-436.	3.8	31
43	Porphyrin complexes containing coordinated BOB groups: synthesis, chemical reactivity and the structure of [BOB(tpClpp)]2+. Dalton Transactions, 2008, , 1602.	3.3	30
44	Single Crystal X-ray, AFM, NEXAFS, and OFET Studies on Angular Polycyclic Aromatic Silyl-Capped 7,14-Bis(ethynyl)dibenzo[b,def]chrysenes. Crystal Growth and Design, 2012, 12, 725-731.	3.0	29
45	Environmentally friendly preparation of nanoparticles for organic photovoltaics. Organic Electronics, 2018, 59, 432-440.	2.6	28
46	Colourimetric Carboxylate Anion Sensors Derived from Viologenâ€Based Receptors. Chemistry - A European Journal, 2010, 16, 1480-1492.	3.3	27
47	Building intermixed donorâ€“acceptor architectures for water-processable organic photovoltaics. Physical Chemistry Chemical Physics, 2019, 21, 5705-5715.	2.8	27
48	Influence of the Alkyl Substituents Spacing on the Solar Cell Performance of Benzodithiophene Semiconducting Polymers. Macromolecules, 2012, 45, 772-780.	4.8	26
49	Engineering Two-Phase and Three-Phase Microstructures from Water-Based Dispersions of Nanoparticles for Eco-Friendly Polymer Solar Cell Applications. Chemistry of Materials, 2018, 30, 6521-6531.	6.7	25
50	Novel low voltage and solution processable organic thin film transistors based on water dispersed polymer semiconductor nanoparticulates. Journal of Colloid and Interface Science, 2013, 401, 65-69.	9.4	24
51	Water-based nanoparticulate solar cells using a diketopyrrolopyrrole donor polymer. Physical Chemistry Chemical Physics, 2014, 16, 2647.	2.8	23
52	Comparison of inorganic electron transport layers in fully roll-to-roll coated/printed organic photovoltaics in normal geometry. Journal of Materials Chemistry A, 2016, 4, 15986-15996.	10.3	23
53	Comparing three techniques to determine the water vapour transmission rates of polymers and barrier films. Surfaces and Interfaces, 2017, 9, 182-188.	3.0	23
54	New moderate bandgap polymers containing alkoxysubstitutedâ€benzo[c][1,2,5]thiadiazole and thiopheneâ€based units. Journal of Polymer Science Part A, 2011, 49, 4387-4397.	2.3	22

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55	Investigation of the doping efficiency of poly(styrene sulfonic acid) in poly(3,4â€ethylenedioxythiophene)/poly(styrene sulfonic acid) dispersions by capillary electrophoresis. Electrophoresis, 2014, 35, 1976-1983.	2.4	21
56	Modular LED arrays for large area solar simulation. Progress in Photovoltaics: Research and Applications, 2019, 27, 179-189.	8.1	21
57	Engineering vertical morphology with nanoparticulate organic photovoltaic devices. Organic Electronics, 2016, 32, 250-257.	2.6	19
58	Comparing the degradation of organic photovoltaic devices under ISOS testing protocols. Solar Energy Materials and Solar Cells, 2016, 149, 179-186.	6.2	18
59	A new model for PCBM phase segregation in P3HT:PCBM blends. Organic Electronics, 2016, 30, 12-17.	2.6	18
60	A study of the factors influencing the performance of ternary MEH-PPV:porphyrin:PCBM heterojunction devices: Electronic effects in porphyrinoid ternary blend bulk heterojunction photovoltaic devices. Solar Energy Materials and Solar Cells, 2012, 98, 308-316.	6.2	17
61	Enhanced regeneration of degraded polymer solar cells by thermal annealing. Applied Physics Letters, 2014, 104, .	3.3	17
62	Comparative Degradation and Regeneration of Polymer Solar Cells with Different Cathodes. ACS Applied Materials & Interfaces, 2014, 6, 5281-5289.	8.0	17
63	Synthesis and photovoltaic performance of donorâ€“acceptor polymers containing benzo[1,2â€‹b:4,5â€‹bâ€²]dithiophene with thienyl substituents. Journal of Polymer Science Part A, 2013, 51, 2622-2630.	2.3	16
64	The effect of mesomorphology upon the performance of nanoparticulate organic photovoltaic devices. Solar Energy Materials and Solar Cells, 2015, 138, 102-108.	6.2	16
65	The role of surface energy control in organic photovoltaics based on solar paints. Journal of Materials Chemistry A, 2019, 7, 9202-9214.	10.3	16
66	A nuanced approach for assessing OPV materials for large scale applications. Sustainable Energy and Fuels, 2020, 4, 940-949.	4.9	16
67	A convenient synthesis of trimeric porphyrins with systematically variable geometry. Tetrahedron, 1999, 55, 2401-2418.	1.9	15
68	Towards the development of a virtual organic solar cell: An experimental and dynamic Monte Carlo study of the role of charge blocking layers and active layer thickness. Applied Physics Letters, 2012, 101, .	3.3	15
69	Solar Paint: From Synthesis to Printing. Polymers, 2014, 6, 2832-2844.	4.5	15
70	Tin complexes of tetramethyltetraazadibenzo[14]annulene: organometallic derivatives. Journal of the Chemical Society Dalton Transactions, 1999, , 2833-2836.	1.1	14
71	Molecular versus crystallite PCBM diffusion in P3HT:PCBM blends. AIP Advances, 2015, 5, 097220.	1.3	14
72	Electrochemical and morphological characterization of electrodeposited poly(2,2â€²:5â€²,2â€³-terthiophene) for photovoltaic applications. Synthetic Metals, 2008, 158, 661-669.	3.9	13

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73	Organic Semiconductors for Optically Triggered Neural Interfacing: The Impact of Device Architecture in Determining Response Magnitude and Polarity. IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27, 1-12.	2.9	13
74	Activation of Organic Photovoltaic Light Detectors Using Bend Leakage from Optical Fibers. ACS Applied Materials & Interfaces, 2016, 8, 7928-7937.	8.0	12
75	Printable sensors for explosive detonation. Applied Physics Letters, 2014, 105, 143301.	3.3	11
76	Matrix assisted low temperature growth of graphene. Carbon, 2016, 107, 325-331.	10.3	11
77	Diketopyrrolopyrrole-based polymer:fullerene nanoparticle films with thermally stable morphology for organic photovoltaic applications. MRS Communications, 2017, 7, 67-73.	1.8	11
78	Tin(IV), germanium(IV) and silicon(IV) complexes of the dianion of 5, 14-dihydro-6,8,15,17-tetramethyldibenzo-[b,i][1,4,8,11]tetraazacyclotetradecine (H2L): crystal structures of trans-Sn(L)Cl2and trans-Sn(L)(NO3)2Â·MeCN. Journal of the Chemical Society Dalton Transactions, 1993, , 2101-2105.	1.1	10
79	Effect of a calcium cathode on water-based nanoparticulate solar cells. Applied Physics Letters, 2012, 101, 053901.	3.3	10
80	A building-block approach to the development of an equivalent circuit model for organic photovoltaic cells. Organic Electronics, 2018, 58, 207-215.	2.6	10
81	Surfactant Free P3HT â^• PCBM Nanoparticles for Organic Photovoltaics (OPV). AIP Conference Proceedings, 2011, , .	0.4	9
82	Optimization, characterization and upscaling of aqueous solar nanoparticle inks for organic photovoltaics using low-cost donor:acceptor blend. Organic Electronics, 2018, 52, 71-78.	2.6	9
83	Contribution of Fullerene Photocurrent Generation to Organic Solar Cell Performance. Journal of Physical Chemistry C, 2019, 123, 11950-11958.	3.1	9
84	Optimisation of purification techniques for the preparation of large-volume aqueous solar nanoparticle inks for organic photovoltaics. Beilstein Journal of Nanotechnology, 2018, 9, 649-659.	2.8	8
85	Capillary electrophoresis with photodiode array detection of processable poly(3,4-ethylenedioxythiophene)/polystyrene sulfonate aqueous dispersions. Journal of Chromatography A, 2012, 1267, 246-251.	3.7	7
86	The fabrication and characterization of poly(4-vinylpyridine)-based thin film transistors exhibiting enhanced ion modulation. Organic Electronics, 2012, 13, 153-158.	2.6	7
87	Solution processable interface materials for nanoparticulate organic photovoltaic devices. Applied Physics Letters, 2014, 104, 043902.	3.3	7
88	An Assessment of the Effect of Synthetic and Doping Conditions on the Processability and Conductivity of Poly(3,4-ethylenedioxythiophene)/Poly(styrene sulfonic acid). Macromolecular Chemistry and Physics, 2016, 217, 1907-1916.	2.2	7
89	Controlling Nanostructure in Inkjet Printed Organic Transistors for Pressure Sensing Applications. Nanomaterials, 2021, 11, 1185.	4.1	7
90	Glassy Carbon Based Sensors. Synthetic Metals, 2003, 137, 1429-1430.	3.9	6

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91	An Economic LED Solar Simulator Design. IEEE Journal of Photovoltaics, 2022, 12, 521-525.	2.5	6
92	Surfactant Engineering and Its Role in Determining the Performance of Nanoparticulate Organic Photovoltaic Devices. ACS Omega, 2022, 7, 9212-9220.	3.5	6
93	The origin of fine structure in near-field scanning optical lithography of an electroactive polymer. Journal Physics D: Applied Physics, 2008, 41, 195107.	2.8	5
94	The effect of calcium-induced fullerene migration on the performance of thermally stable nanoparticle organic solar cells. Journal of Applied Physics, 2014, 116, 124502.	2.5	5
95	Energy level engineering in ternary organic solar cells: Evaluating exciton dissociation at organic semiconductor interfaces. Applied Physics Letters, 2017, 110, .	3.3	5
96	Roll-to-roll solvent annealing of printed P3HTâ€‰:â€‰IC_XA devices. RSC Advances, 2019, 9, 42294-42305.	3.6	5
97	Low-Temperature CVD-Grown Graphene Thin Films as Transparent Electrode for Organic Photovoltaics. Coatings, 2022, 12, 681.	2.6	5
98	Investigation of the photochemistry of the poly{p-phenylenevinylene} precursor system: Implications for nanolithography. Journal of Chemical Physics, 2007, 126, 174703.	3.0	4
99	Synthesis of indium oxide nanowires encapsulated in amorphous carbon nanostructures on indium tin oxide substrate. Materials Research Innovations, 2012, 16, 101-104.	2.3	4
100	A knife-edge measurement of the beam profile of STXM 5.3.2.2 using a focussed ion beam milled metallic glass. Journal of Electron Spectroscopy and Related Phenomena, 2012, 185, 453-457.	1.7	4
101	Development of a multi-wavelength photocurrent mapping system. Measurement Science and Technology, 2013, 24, 105604.	2.6	4
102	Probing the structureâ€“function relationship in pC6TP:PCBM based organic photonic devices. Solar Energy Materials and Solar Cells, 2013, 110, 8-14.	6.2	4
103	An equivalent circuit model for ternary blend P3HT:pC6TP:PCBM low band gap devices. Solar Energy Materials and Solar Cells, 2013, 114, 65-70.	6.2	4
104	Experimental determination of the relationship between the elements of a back-to-back diode model for organic photovoltaic cellsâ€™ S-shaped I-V characteristics and cell structure. AIP Advances, 2019, 9, 025014.	1.3	4
105	Relating nanoscale structure to optoelectronic functionality in multiphase donorâ€“acceptor nanoparticles for printed electronics applications. MRS Communications, 2020, 10, 600-608.	1.8	4
106	Role of Morphology of Surfactant-Free Nanoparticles in Organic Photovoltaics. Journal of Electronic Materials, 2020, 49, 4168-4179.	2.2	4
107	Mapping chemical concentration in binary thin organic films via multi-wavelength scanning absorption microscopy (MWSAM). Measurement Science and Technology, 2014, 25, 095901.	2.6	3
108	Model & Metaphor: A Case Study of a New Methodology for Art/Science Residencies. Leonardo, 2015, 48, 419-423.	0.3	3

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109	Non-Dependence of Polymer to PCBM Weight Ratio on the Performance of Bulk Heterojunction Solar Cells with Benzodithiophene Donor Polymer. Science of Advanced Materials, 2013, 5, 512-518.	0.7	3
110	A dynamic Monte Carlo study of anomalous current voltage behaviour in organic solar cells. Journal of Applied Physics, 2014, 116, 214509.	2.5	2
111	A thermodynamic and kinetic description of PCBM phase segregation and aggregation in P3HT:PCBM blends. Organic Electronics, 2016, 38, 15-20.	2.6	2
112	Organic electronics incorporating crown ethers as Na + binding elements, towards a simple printable hydration sensor. Medical Devices & Sensors, 2018, 1, e10001.	2.7	2
113	High-Performance Thin Film Transistor from Solution-Processed P3HT Polymer Semiconductor Nanoparticles. , 2011, , .		1
114	Organic solar cells: evaluation of the stability of P3HT using time-delayed degradation. Proceedings of SPIE, 2011, , .	0.8	1
115	Plasmonic nanostructure embedded within photoactive layer for enhanced power conversion efficiency of organic solar cells. , 2011, , .		0
116	Comparing Model Parameters of Bulk Heterojunction and Nanoparticulate Photovoltaic Cells Using a Two-diode Model. , 2011, , .		0
117	Chemical vapour deposition of poly(p-phenylenevinylene) nanofilms for use in organic photovoltaics. Materials Research Innovations, 2011, 15, s18-s20.	2.3	0
118	Investigations into Current Modulation Mechanisms in Low Operating Voltage Organic Thin Film Transistors and Their Relationship to the Materials Employed. Materials Research Society Symposia Proceedings, 2011, 1359, 79.	0.1	0
119	Templated growth of poly(p-phenylenevinylene) nanostructures by chemical vapour deposition. Materials Research Innovations, 2012, 16, 91-95.	2.3	0
120	Low temperature growth of graphene-based carbon electrodes for organic solar cells. , 2013, , .		0
121	Fabrication of Large-Area Organic Photovoltaics Using a Draw-Bar Coating Technique. Materials Research Society Symposia Proceedings, 2013, 1529, 1.	0.1	0
122	Real poly(p-phenylene vinylene) features from near-field scanning optical lithography and the implications for further modelling. Journal Physics D: Applied Physics, 2015, 48, 325101.	2.8	0
123	Temperature-Modulated Doping at Polymer Semiconductor Interfaces. ACS Applied Electronic Materials, 2021, 3, 1384-1393.	4.3	0