Jan C Hummelen

List of Publications by Year
in descending order

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63 papers	9,291 citations	159358 30 h-index	138251 58 g-index
67 all docs	67 docs citations	67 times ranked	9921 citing authors

#	Article	IF	Citations
1	2.5% efficient organic plastic solar cells. Applied Physics Letters, 2001, 78, 841-843.	1.5	2,520
2	Preparation and Characterization of Fulleroid and Methanofullerene Derivatives. Journal of Organic Chemistry, 1995, 60, 532-538.	1.7	1,194
3	Broadband dye-sensitized upconversion of near-infrared light. Nature Photonics, 2012, 6, 560-564.	15.6	861
4	Electron Transport in a Methanofullerene. Advanced Functional Materials, 2003, 13, 43-46.	7.8	600
5	Fullerene Bisadducts for Enhanced Openâ€Circuit Voltages and Efficiencies in Polymer Solar Cells. Advanced Materials, 2008, 20, 2116-2119.	11.1	575
6	A Low-Bandgap Semiconducting Polymer for Photovoltaic Devices and Infrared Emitting Diodes. Advanced Functional Materials, 2002, 12, 709-712.	7.8	517
7	Pathways to a New Efficiency Regime for Organic Solar Cells. Advanced Energy Materials, 2012, 2, 1246-1253.	10.2	343
8	Enhancing Molecular nâ€Type Doping of Donorâ€“Acceptor Copolymers by Tailoring Side Chains. Advanced Materials, 2018, 30, 1704630.	11.1	217
9	Organic complementary-like inverters employing methanofullerene-based ambipolar field-effect transistors. Applied Physics Letters, 2004, 85, 4205-4207.	1.5	179
10	Strategy for Enhancing the Dielectric Constant of Organic Semiconductors Without Sacrificing Charge Carrier Mobility and Solubility. Advanced Functional Materials, 2015, 25, 150-157.	7.8	178
11	Large negative differential conductance in single-molecule break junctions. Nature Nanotechnology, 2014, 9, 830-834.	15.6	170
12	High mobility n-channel organic field-effect transistors based on soluble C60 and C70 fullerene derivatives. Synthetic Metals, 2008, 158, 468-472.	2.1	151
13	Nâ€Type Organic Thermoelectrics: Improved Power Factor by Tailoring Hostâ€“Dopant Miscibility. Advanced Materials, 2017, 29, 1701641.	11.1	131
14	Ultrafast Holeâ€Transfer Dynamics in Polymer/PCBM Bulk Heterojunctions. Advanced Functional Materials, 2010, 20, 1653-1660.	7.8	117
15	Low-voltage organic transistors based on solution processed semiconductors and self-assembled monolayer gate dielectrics. Applied Physics Letters, 2008, 93, .	1.5	111
16	N-type organic thermoelectrics: demonstration of ZTâ€‰>â€‰0.3. Nature Communications, 2020, 11, 5694.	5.8	98
17	Thienyl analog of 1-(3-methoxycarbonyl)propyl-1-phenyl-[6,6]-methanofullerene for bulk heterojunction photovoltaic devices in combination with polythiophenes. Applied Physics Letters, 2006, 89, 213507.	1.5	84
18	Fullerene derivatives with increased dielectric constants. Chemical Communications, 2014, 50, 10645-10647.	2.2	84

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19	Simultaneous Openâ€Circuit Voltage Enhancement and Shortâ€Circuit Current Loss in Polymer: Fullerene Solar Cells Correlated by Reduced Quantum Efficiency for Photoinduced Electron Transfer. Advanced Energy Materials, 2013, 3, 85-94.	10.2	77
20	Enhancing doping efficiency by improving host-dopant miscibility for fullerene-based n-type thermoelectrics. Journal of Materials Chemistry A, 2017, 5, 21234-21241.	5.2	73
21	Singlet-energy transfer in quadruple hydrogen-bonded oligo(p-phenylenevinylene)â€“fullerene dyads. Journal of Materials Chemistry, 2002, 12, 2054-2060.	6.7	63
22	Thiol-free self-assembled oligoethylene glycols enable robust air-stable molecular electronics. Nature Materials, 2020, 19, 330-337.	13.3	60
23	Supramolecular organization of fullerenes by quadruple hydrogen bonding. Chemical Communications, 2001, , 161-162.	2.2	59
24	Electric-Field Control of Interfering Transport Pathways in a Single-Molecule Anthraquinone Transistor. Nano Letters, 2015, 15, 5569-5573.	4.5	59
25	Statistical analysis of singleâ€molecule breaking traces. Physica Status Solidi (B): Basic Research, 2013, 250, 2431-2436.	0.7	56
26	In-Situ Compositional and Structural Analysis of Plastic Solar Cells. Advanced Functional Materials, 2002, 12, 665-669.	7.8	53
27	Efficient Perovskite Solar Cells over a Broad Temperature Window: The Role of the Charge Carrier Extraction. Advanced Energy Materials, 2017, 7, 1701305.	10.2	52
28	Rectification of current responds to incorporation of fullerenes into mixed-monolayers of alkanethiolates in tunneling junctions. Chemical Science, 2017, 8, 2365-2372.	3.7	46
29	Side-chain effects on N-type organic thermoelectrics: A case study of fullerene derivatives. Nano Energy, 2018, 52, 183-191.	8.2	45
30	An effective strategy to enhance the dielectric constant of organic semiconductors â€“ CPDTTPD-based low bandgap polymers bearing oligo(ethylene glycol) side chains. Journal of Materials Chemistry C, 2018, 6, 500-511.	2.7	37
31	Electrical Conductivity of Doped Organic Semiconductors Limited by Carrierâ€“Carrier Interactions. ACS Applied Materials & Interfaces, 2020, 12, 56222-56230.	4.0	32
32	Organic field-effect transistor-based biosensors functionalized with protein receptors. Journal of Applied Physics, 2010, 108, 124501.	1.1	31
33	Influence of the isomeric composition of the acceptor on the performance of organic bulk heterojunction P3HT:bis-PCBM solar cells. Journal of Materials Chemistry, 2012, 22, 15412.	6.7	31
34	Using bis(pinacolato)diboron to improve the quality of regioregular conjugated co-polymers. Journal of Materials Chemistry, 2011, 21, 1582-1592.	6.7	30
35	Promising Strategy To Improve Charge Separation in Organic Photovoltaics: Installing Permanent Dipoles in PCBM Analogues. Journal of Physical Chemistry A, 2016, 120, 4664-4671.	1.1	30
36	Rough Electrode Creates Excess Capacitance in Thin-Film Capacitors. ACS Applied Materials & Interfaces, 2017, 9, 27290-27297.	4.0	30

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37	Fluorine containing C60 derivatives for high-performance electron transporting field-effect transistors and integrated circuits. Applied Physics Letters, 2008, 92, 143310.	1.5	26
38	The use of combinatorial materials development for polymer solar cells. Advanced Materials for Optics and Electronics, 2000, 10, 47-54.	0.6	24
39	Fully direct written organic micro-thermoelectric generators embedded in a plastic foil. Nano Energy, 2020, 75, 104983.	8.2	24
40	In Operando Modulation of Rectification in Molecular Tunneling Junctions Comprising Reconfigurable Molecular Selfâ€Assemblies. Advanced Materials, 2021, 33, 2006109.	11.1	22
41	Improved efficiency of NiOx-based p-i-n perovskite solar cells by using PTEG-1 as electron transport layer. APL Materials, 2017, 5, .	2.2	20
42	Soluble fullerene derivatives: The effect of electronic structure on transistor performance and air stability. Journal of Applied Physics, 2011, 110, .	1.1	19
43	Deposition of LiF onto Films of Fullerene Derivatives Leads to Bulk Doping. ACS Applied Materials & Interfaces, 2016, 8, 22623-22628.	4.0	19
44	Influence of the sensitizer reduction potential on the sensitivity of photorefractive polymer composites. Journal of Materials Chemistry, 2010, 20, 6170.	6.7	17
45	Soft Nondamaging Contacts Formed from Eutectic Gaâ€“In for the Accurate Determination of Dielectric Constants of Organic Materials. Chemistry of Materials, 2018, 30, 5527-5533.	3.2	16
46	The Effect of Electrostatic Interaction on nâ€Type Doping Efficiency of Fullerene Derivatives. Advanced Electronic Materials, 2019, 5, 1800959.	2.6	15
47	Conjugated Polyions Enable Organic Photovoltaics Processed from Green Solvents. ACS Applied Energy Materials, 2019, 2, 2197-2204.	2.5	13
48	Reaching a Double-Digit Dielectric Constant with Fullerene Derivatives. Journal of Physical Chemistry C, 2020, 124, 8633-8638.	1.5	13
49	Molecular Doping Directed by a Neutral Radical. ACS Applied Materials & Interfaces, 2021, 13, 29858-29865.	4.0	12
50	Surface modification of semiconductor nanocrystals by a methanofullerene carboxylic acid. Journal of Materials Chemistry, 2010, 20, 8470.	6.7	11
51	High-quality conjugated polymers via one-pot Suzukiâ€“Miyaura homopolymerization. RSC Advances, 2017, 7, 27762-27769.	1.7	11
52	Fullerene derivatives with oligoethyleneâ€“glycol side chains: an investigation on the origin of their outstanding transport properties. Journal of Materials Chemistry C, 2021, 9, 16217-16225.	2.7	10
53	Integrated Complementary-Like Circuits Based on Organic Ambipolar Transistors. Materials Research Society Symposia Proceedings, 2005, 871, 1.	0.1	6
54	Spin excitations in an all-organic double quantum dot molecule. Physical Review B, 2016, 94, .	1.1	5

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55	Investigating the dielectric properties and exciton diffusion in C₇₀ derivatives. Physical Chemistry Chemical Physics, 2022, 24, 13763-13772.	1.3	2
56	The Interconnection Between Efficiency and Morphology of Two Component Systems in Plastic Solar Cells. Materials Research Society Symposia Proceedings, 1999, 598, 500.	0.1	1
57	Investigation of Photoinduced Charge Transfer in Composites of a Novel Precursor PPV Polymer and Fullerenes. Materials Research Society Symposia Proceedings, 1999, 598, 207.	0.1	1
58	Perovskite Solar Cells: Efficient Perovskite Solar Cells over a Broad Temperature Window: The Role of the Charge Carrier Extraction (Adv. Energy Mater. 22/2017). Advanced Energy Materials, 2017, 7, .	10.2	1
59	Fullerenes and nanostructured plastic solar cells. , 1998, , .		0
60	The Influence of Ordering on the Photoinduced Charge Transfer in Composites of Phenyl-type Substituted Polythiophenes with Methanofullerenes. Materials Research Society Symposia Proceedings, 1999, 598, 200.	0.1	0
61	Ultrafast energy and electron transfer in donor-acceptor molecules for photovoltaics. , 2001, , .		0
62	Solution Processed Self-Assembled Monolayer Gate Dielectrics for Low-Voltage Organic Transistors. Materials Research Society Symposia Proceedings, 2008, 1114, 90201.	0.1	0
63	Statistical analysis of singleâ€molecule breaking traces. Physica Status Solidi (B): Basic Research, 2013, 250, .	0.7	0