

Hiroyuki Matsui

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

92
papers

3,793
citations

30
h-index

60
g-index

95
ext. papers

4,311
ext. citations

6.6
avg, IF

5.35
L-index

#	Paper	IF	Citations
92	Printed dual-gate organic thin film transistors and PMOS inverters on flexible substrates: role of top gate electrode. <i>Journal Physics D: Applied Physics</i> , 2022 , 55, 135105	3	0
91	Paper-based lactate biofuel cell array with high power output. <i>Journal of Power Sources</i> , 2021 , 489, 229533	3.3	10
90	Flexible low-voltage organic thin-film transistors and PMOS inverters: the effect of channel width on noise margin. <i>Journal Physics D: Applied Physics</i> , 2021 , 54, 315102	3	3
89	Device Physics of Organic Field-effect Transistors 2021 , 245-271		
88	Flexible high-performance organic thin film transistors and PMOS inverters: Trap controlled grain boundaries and contact resistance effect in different channel length devices. <i>Synthetic Metals</i> , 2021 , 278, 116808	3.6	2
87	Architecting Layered Crystalline Organic Semiconductors Based on Unsymmetric π -Extended Thienoacenes. <i>Chemistry of Materials</i> , 2021 , 33, 7379-7385	9.6	6
86	Field-Induced Electron Spin Resonance of Site-Selective Carrier Accumulation in Field-Effect Transistors Composed of Organic Semiconductor Solid Solutions. <i>Physical Review Applied</i> , 2021 , 16,	4.3	1
85	Flexible inkjet-printed dual-gate organic thin film transistors and PMOS inverters: Noise margin control by top gate. <i>Organic Electronics</i> , 2020 , 85, 105847	3.5	11
84	Printed Strain Sensor with High Sensitivity and Wide Working Range Using a Novel Brittle-Stretchable Conductive Network. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 35282-35290	9.5	16
83	Rapid improvements in charge carrier mobility at ionic liquid/pentacene single crystal interfaces by self-cleaning. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 6131-6135	3.6	4
82	High-Speed Complementary Integrated Circuit with a Stacked Structure Using Fine Electrodes Formed by Reverse Offset Printing. <i>ACS Applied Electronic Materials</i> , 2020 , 2, 763-768	4	5
81	Fully Printed PEDOT:PSS-based Temperature Sensor with High Humidity Stability for Wireless Healthcare Monitoring. <i>Scientific Reports</i> , 2020 , 10, 2467	4.9	73
80	Flexible PMOS Inverter and NOR Gate Using Inkjet-Printed Dual-Gate Organic Thin Film Transistors. <i>IEEE Electron Device Letters</i> , 2020 , 41, 409-412	4.4	12
79	Printed Organic Transistor-based Biosensors for Non-invasive Sweat Analysis. <i>Analytical Sciences</i> , 2020 , 36, 291-302	1.7	18
78	Regioisomeric control of layered crystallinity in solution-processable organic semiconductors.. <i>Chemical Science</i> , 2020 , 11, 12493-12505	9.4	8
77	Flexible and printed organic transistors: From materials to integrated circuits. <i>Organic Electronics</i> , 2019 , 75, 105432	3.5	89
76	Transmission electron diffraction study of a uniaxially-ordered high-mobility polymeric semiconductor. <i>Microscopy (Oxford, England)</i> , 2019 , 68, 167-173	1.3	1

75	Ferroelectric polymer-based fully printed flexible strain rate sensors and their application for human motion capture. <i>Sensors and Actuators A: Physical</i> , 2019 , 295, 93-98	3.9	16
74	Static and Dynamic Response Comparison of Printed, Single- and Dual-Gate 3-D Complementary Organic TFT Inverters. <i>IEEE Electron Device Letters</i> , 2019 , 40, 1277-1280	4.4	12
73	. <i>IEEE Journal of the Electron Devices Society</i> , 2019 , 7, 566-574	2.3	14
72	High carrier density, electrostatic doping in organic single crystal semiconductors using electret polymers. <i>Applied Physics Express</i> , 2019 , 12, 071001	2.4	1
71	Low Operating Voltage and Highly Pressure-Sensitive Printed Sensor for Healthcare Monitoring with Analogic Amplifier Circuit. <i>ACS Applied Electronic Materials</i> , 2019 , 1, 246-252	4	22
70	Formaldehyde Detection by a Combination of Formaldehyde Dehydrogenase and Chitosan on a Sensor Based on an Organic Field-Effect Transistor. <i>Technologies</i> , 2019 , 7, 48	2.4	5
69	Noninvasive Sweat-Lactate Biosensor Employing a Hydrogel-Based Touch Pad. <i>Scientific Reports</i> , 2019 , 9, 10102	4.9	45
68	Numerical aspect of large-scale electronic state calculation for flexible device material. <i>Japan Journal of Industrial and Applied Mathematics</i> , 2019 , 36, 685-698	0.6	5
67	An L-lactate Biosensor Based on Printed Organic Inverter Circuitry and with a Tunable Detection Limit. <i>Sensors and Materials</i> , 2019 , 31, 1205	1.5	8
66	A Printed Organic Amplification System for Wearable Potentiometric Electrochemical Sensors. <i>Scientific Reports</i> , 2018 , 8, 3922	4.9	35
65	Nanosecond Time-Resolved Microscopic Gate-Modulation Imaging of Polycrystalline Organic Thin-Film Transistors. <i>Physical Review Applied</i> , 2018 , 9,	4.3	3
64	A Printed Organic Circuit System for Wearable Amperometric Electrochemical Sensors. <i>Scientific Reports</i> , 2018 , 8, 6368	4.9	32
63	Switching Time in Ferroelectric Organic Field-Effect Transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2018 , 215, 1701059	1.6	4
62	Uniform, high performance, solution processed organic thin-film transistors integrated in 1 MHz frequency ring oscillators. <i>Organic Electronics</i> , 2018 , 54, 40-47	3.5	27
61	One step facile synthesis of a novel anthanthrone dye-based, dopant-free hole transporting material for efficient and stable perovskite solar cells. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 3699-3708	7.1	48
60	Printed Electronics: Organic Complementary Inverter Circuits Fabricated with Reverse Offset Printing (Adv. Electron. Mater. 1/2018). <i>Advanced Electronic Materials</i> , 2018 , 4, 1870008	6.4	
59	Fully Printed Wearable Vital Sensor for Human Pulse Rate Monitoring using Ferroelectric Polymer. <i>Scientific Reports</i> , 2018 , 8, 4442	4.9	68
58	Charge Carrier Distribution in Low-Voltage Dual-Gate Organic Thin-Film Transistors. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 1341	2.6	6

57	Printed 5-V organic operational amplifiers for various signal processing. <i>Scientific Reports</i> , 2018 , 8, 8980	4.9	20
56	Organic Complementary Inverter Circuits Fabricated with Reverse Offset Printing. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700313	6.4	40
55	Printed Organic Transistor-Based Enzyme Sensor for Continuous Glucose Monitoring in Wearable Healthcare Applications. <i>ChemElectroChem</i> , 2018 , 5, 3881-3886	4.3	19
54	Detection of 1,5-anhydroglucitol as a Biomarker for Diabetes Using an Organic Field-Effect Transistor-Based Biosensor. <i>Technologies</i> , 2018 , 6, 77	2.4	15
53	Printed Organic Complementary Inverter with Single SAM Process Using a p-type D-A Polymer Semiconductor. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 1331	2.6	10
52	Broadening of Distribution of Trap States in PbS Quantum Dot Field-Effect Transistors with High-k Dielectrics. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 4719-4724	9.5	16
51	Control of molecular doping in conjugated polymers by thermal annealing. <i>Organic Electronics</i> , 2017 , 47, 139-146	3.5	15
50	Painting Integrated Complementary Logic Circuits for Single-Crystal Organic Transistors: A Demonstration of a Digital Wireless Communication Sensing Tag. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600456	6.4	42
49	Spontaneously formed high-performance charge-transport layers of organic single-crystal semiconductors on precisely synthesized insulating polymers. <i>Applied Physics Letters</i> , 2017 , 110, 163302	3.4	13
48	Printed Organic Inverter Circuits with Ultralow Operating Voltages. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600557	6.4	54
47	Strain-Modulated Charge Transport in Flexible PbS Nanocrystal Field-Effect Transistors. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600360	6.4	17
46	High-Yield, Highly Uniform Solution-Processed Organic Transistors Integrated into Flexible Organic Circuits. <i>Advanced Electronic Materials</i> , 2017 , 3, 1600410	6.4	27
45	Boron-Stabilized Planar Neutral Radicals with Well-Balanced Ambipolar Charge-Transport Properties. <i>Journal of the American Chemical Society</i> , 2017 , 139, 14336-14339	16.4	56
44	Coexistence of ultra-long spin relaxation time and coherent charge transport in organic single-crystal semiconductors. <i>Nature Physics</i> , 2017 , 13, 994-998	16.2	95
43	Compact Organic Complementary D-Type Flip-Flop Circuits Fabricated with Inkjet Printing. <i>Advanced Electronic Materials</i> , 2017 , 3, 1700208	6.4	16
42	Printed 2 V-operating organic inverter arrays employing a small-molecule/polymer blend. <i>Scientific Reports</i> , 2016 , 6, 34723	4.9	37
41	Suppressing molecular vibrations in organic semiconductors by inducing strain. <i>Nature Communications</i> , 2016 , 7, 11156	17.4	79
40	Mobility Exceeding 10 cm ² /(Vs) in Donor-Acceptor Polymer Transistors with Band-like Charge Transport. <i>Chemistry of Materials</i> , 2016 , 28, 420-424	9.6	130

39	The emergence of charge coherence in soft molecular organic semiconductors via the suppression of thermal fluctuations. <i>NPG Asia Materials</i> , 2016 , 8, e252-e252	10.3	17
38	Tunable doping in PbS nanocrystal field-effect transistors using surface molecular dipoles. <i>APL Materials</i> , 2016 , 4, 116105	5.7	7
37	Gradual improvements of charge carrier mobility at ionic liquid/rubrene single crystal interfaces. <i>Applied Physics Letters</i> , 2016 , 108, 083113	3.4	12
36	High performance oxygen-bridged N-shaped semiconductors with a stabilized crystal phase and blue luminescence. <i>RSC Advances</i> , 2016 , 6, 28966-28969	3.7	13
35	High mobility and low density of trap states in dual-solid-gated PbS nanocrystal field-effect transistors. <i>Advanced Materials</i> , 2015 , 27, 2107-12	24	51
34	Chemical potential shift in organic field-effect transistors identified by soft X-ray operando nano-spectroscopy. <i>Applied Physics Letters</i> , 2015 , 106, 251604	3.4	16
33	All solution-processed organic single-crystal transistors with high mobility and low-voltage operation. <i>Organic Electronics</i> , 2015 , 22, 1-4	3.5	22
32	Printed Electronics: Underlying Mechanism of Inkjet Printing of Uniform Organic Semiconductor Films Through Antisolvent Crystallization (Adv. Funct. Mater. 26/2015). <i>Advanced Functional Materials</i> , 2015 , 25, 4021-4021	15.6	
31	Underlying Mechanism of Inkjet Printing of Uniform Organic Semiconductor Films Through Antisolvent Crystallization. <i>Advanced Functional Materials</i> , 2015 , 25, 4022-4031	15.6	21
30	Short-Channel Solution-Processed Organic Semiconductor Transistors and their Application in High-Speed Organic Complementary Circuits and Organic Rectifiers. <i>Advanced Electronic Materials</i> , 2015 , 1, 1500178	6.4	23
29	Solution-processed single-crystalline organic transistors on patterned ultrathin gate insulators. <i>Organic Electronics</i> , 2014 , 15, 1184-1188	3.5	14
28	Furan fused V-shaped organic semiconducting materials with high emission and high mobility. <i>Chemical Communications</i> , 2014 , 50, 5342-4	5.8	43
27	Transition between band and hopping transport in polymer field-effect transistors. <i>Advanced Materials</i> , 2014 , 26, 8169-73	24	56
26	Highly oriented polymer semiconductor films compressed at the surface of ionic liquids for high-performance polymeric organic field-effect transistors. <i>Advanced Materials</i> , 2014 , 26, 6430-5	24	60
25	ESR Study of Carrier Dynamics in Organic Semiconductor Interfaces. <i>Hyomen Kagaku</i> , 2014 , 35, 209-214		
24	Dinaphtho[1,2-b:2',1'-d]chalcogenophenes: Comprehensive Investigation of the Effect of the Chalcogen Atoms in the Phenacene-Type π -Electronic Cores. <i>Chemistry of Materials</i> , 2013 , 25, 3952-3956	9.6	43
23	Competition between Exciplex Formation and Photocarrier Generation in Molecular-Scale Donor-Acceptor Heterojunctions. <i>Materials Research Society Symposia Proceedings</i> , 2013 , 1435, 55		
22	Observation and simulation of microdroplet shapes on surface-energy-patterned substrates: Contact line engineering for printed electronics. <i>Journal of Applied Physics</i> , 2013 , 114, 044905	2.5	10

21	Distribution of localized states from fine analysis of electron spin resonance spectra of organic semiconductors: Physical meaning and methodology. <i>Physical Review B</i> , 2012 , 85,	3.3	18
20	Generation and Diffusion of Photocarriers in Molecular Donor-Acceptor Systems: Dependence on Charge-Transfer Gap Energy. <i>Journal of Physical Chemistry C</i> , 2012 , 116, 23957-23964	3.8	30
19	Simple push coating of polymer thin-film transistors. <i>Nature Communications</i> , 2012 , 3, 1176	17.4	92
18	Correlation between interdomain carrier hopping and apparent mobility in polycrystalline organic transistors as investigated by electron spin resonance. <i>Physical Review B</i> , 2012 , 85,	3.3	41
17	Hybrid energy-minimization simulation of equilibrium droplet shapes on hydrophilic/hydrophobic patterned surfaces. <i>Langmuir</i> , 2012 , 28, 15450-3	4	28
16	ESR Anisotropy of Organic Semiconductor Molecules: Calculation and Experiment. <i>Materials Research Society Symposia Proceedings</i> , 2012 , 1436, 6		
15	Inkjet printing of single-crystal films. <i>Nature</i> , 2011 , 475, 364-7	50.4	1360
14	Competition between charge-transfer exciton dissociation and direct photocarrier generation in molecular donor-acceptor compounds. <i>Physical Review Letters</i> , 2010 , 105, 226601	7.4	33
13	Electric-field control of solitons in a ferroelectric organic charge-transfer salt. <i>Physical Review Letters</i> , 2010 , 104, 227602	7.4	45
12	Distribution of localized states from fine analysis of electron spin resonance spectra in organic transistors. <i>Physical Review Letters</i> , 2010 , 104, 056602	7.4	59
11	Cupric chloride CuCl ₂ as an S=12 chain multiferroic. <i>Physical Review B</i> , 2010 , 82,	3.3	62
10	Field-modulation spectroscopy of pentacene thin films using field-effect devices: Reconsideration of the excitonic structure. <i>Physical Review B</i> , 2010 , 82,	3.3	30
9	Visualization of accumulated charge density in operating organic thin-film transistors. <i>Applied Physics Letters</i> , 2009 , 95, 223301	3.4	14
8	Direct Observation of Field-Induced Carrier Dynamics in Pentacene Thin-Film Transistors by Electron Spin Resonance Spectroscopy. <i>Japanese Journal of Applied Physics</i> , 2009 , 48, 04C175	1.4	10
7	Field-Induced ESR Spectroscopy on Rubrene Single-Crystal Field-Effect Transistors. <i>Materials Research Society Symposia Proceedings</i> , 2009 , 1154, 1		6
6	Solid phase epitaxy of ferrimagnetic Y ₃ Fe ₅ O ₁₂ garnet thin films. <i>Applied Physics Letters</i> , 2008 , 93, 092505	5.4	22
5	Polaron motional narrowing of electron spin resonance in organic field-effect transistors. <i>Physical Review Letters</i> , 2008 , 100, 126601	7.4	78
4	Control of film morphology and its effects on subthreshold characteristics in dibenzotetrathiafulvalene organic thin-film transistors. <i>Applied Physics Letters</i> , 2008 , 92, 233306	3.4	27

3	Photosensitive function of encapsulated dye in carbon nanotubes. <i>Journal of the American Chemical Society</i> , 2007 , 129, 4992-7	16.4	111
2	Optical Stark Effect of Exciton in Semiconducting Single-Walled Carbon Nanotubes. <i>Japanese Journal of Applied Physics</i> , 2006 , 45, L513-L515	1.4	3
1	Visualizing Quasi-Static Electric Fields with Flexible and Printed Organic Transistors. <i>Advanced Materials Technologies</i> , 2100723	6.8	1