

# Hiroyuki Matsui

## List of Publications by Citations

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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 | Inkjet printing of single-crystal films. <i>Nature</i> , <b>2011</b> , 475, 364-7  | 50.4 | 1360      |
| 91 | Mobility Exceeding 10 cm <sup>2</sup> /(V·s) in Donor-Acceptor Polymer Transistors with Band-like Charge Transport. <i>Chemistry of Materials</i> , <b>2016</b> , 28, 420-424                                | 9.6  | 130       |
| 90 | Photosensitive function of encapsulated dye in carbon nanotubes. <i>Journal of the American Chemical Society</i> , <b>2007</b> , 129, 4992-7   | 16.4 | 111       |
| 89 | Coexistence of ultra-long spin relaxation time and coherent charge transport in organic single-crystal semiconductors. <i>Nature Physics</i> , <b>2017</b> , 13, 994-998                                     | 16.2 | 95        |
| 88 | Simple push coating of polymer thin-film transistors. <i>Nature Communications</i> , <b>2012</b> , 3, 1176   | 17.4 | 92        |
| 87 | Flexible and printed organic transistors: From materials to integrated circuits. <i>Organic Electronics</i> , <b>2019</b> , 75, 105432   | 3.5  | 89        |
| 86 | Suppressing molecular vibrations in organic semiconductors by inducing strain. <i>Nature Communications</i> , <b>2016</b> , 7, 11156   | 17.4 | 79        |
| 85 | Polaron motional narrowing of electron spin resonance in organic field-effect transistors. <i>Physical Review Letters</i> , <b>2008</b> , 100, 126601  | 7.4  | 78        |
| 84 | Fully Printed PEDOT:PSS-based Temperature Sensor with High Humidity Stability for Wireless Healthcare Monitoring. <i>Scientific Reports</i> , <b>2020</b> , 10, 2467   | 4.9  | 73        |
| 83 | Fully Printed Wearable Vital Sensor for Human Pulse Rate Monitoring using Ferroelectric Polymer. <i>Scientific Reports</i> , <b>2018</b> , 8, 4442   | 4.9  | 68        |
| 82 | Cupric chloride CuCl <sub>2</sub> as an S=12 chain multiferroic. <i>Physical Review B</i> , <b>2010</b> , 82,  | 3.3  | 62        |
| 81 | Highly oriented polymer semiconductor films compressed at the surface of ionic liquids for high-performance polymeric organic field-effect transistors. <i>Advanced Materials</i> , <b>2014</b> , 26, 6430-5 | 24   | 60        |
| 80 | Distribution of localized states from fine analysis of electron spin resonance spectra in organic transistors. <i>Physical Review Letters</i> , <b>2010</b> , 104, 056602                                    | 7.4  | 59        |
| 79 | Boron-Stabilized Planar Neutral Radicals with Well-Balanced Ambipolar Charge-Transport Properties. <i>Journal of the American Chemical Society</i> , <b>2017</b> , 139, 14336-14339                          | 16.4 | 56        |
| 78 | Transition between band and hopping transport in polymer field-effect transistors. <i>Advanced Materials</i> , <b>2014</b> , 26, 8169-73   | 24   | 56        |
| 77 | Printed Organic Inverter Circuits with Ultralow Operating Voltages. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1600557  | 6.4  | 54        |
| 76 | High mobility and low density of trap states in dual-solid-gated PbS nanocrystal field-effect transistors. <i>Advanced Materials</i> , <b>2015</b> , 27, 2107-12   | 24   | 51        |

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|----|---|-----|----|
| 75 | 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> , <b>2018</b> , 6, 3699-3708 | 7.1 | 48 |
| 74 | Noninvasive Sweat-Lactate Biosensor Employing a Hydrogel-Based Touch Pad. <i>Scientific Reports</i> , <b>2019</b> , 9, 10102  | 4.9 | 45 |
| 73 | Electric-field control of solitons in a ferroelectric organic charge-transfer salt. <i>Physical Review Letters</i> , <b>2010</b> , 104, 227602  | 7.4 | 45 |
| 72 | Furan fused V-shaped organic semiconducting materials with high emission and high mobility. <i>Chemical Communications</i> , <b>2014</b> , 50, 5342-4   | 5.8 | 43 |
| 71 | Dinaphtho[1,2-b:2',1'-d]chalcogenophenes: Comprehensive Investigation of the Effect of the Chalcogen Atoms in the Phenacene-Type $\pi$ -Electronic Cores. <i>Chemistry of Materials</i> , <b>2013</b> , 25, 3952-3956     | 9.6 | 43 |
| 70 | Painting Integrated Complementary Logic Circuits for Single-Crystal Organic Transistors: A Demonstration of a Digital Wireless Communication Sensing Tag. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1600456 | 6.4 | 42 |
| 69 | Correlation between interdomain carrier hopping and apparent mobility in polycrystalline organic transistors as investigated by electron spin resonance. <i>Physical Review B</i> , <b>2012</b> , 85,                     | 3.3 | 41 |
| 68 | Organic Complementary Inverter Circuits Fabricated with Reverse Offset Printing. <i>Advanced Electronic Materials</i> , <b>2018</b> , 4, 1700313  | 6.4 | 40 |
| 67 | Printed 2 V-operating organic inverter arrays employing a small-molecule/polymer blend. <i>Scientific Reports</i> , <b>2016</b> , 6, 34723  | 4.9 | 37 |
| 66 | A Printed Organic Amplification System for Wearable Potentiometric Electrochemical Sensors. <i>Scientific Reports</i> , <b>2018</b> , 8, 3922   | 4.9 | 35 |
| 65 | Competition between charge-transfer exciton dissociation and direct photocarrier generation in molecular donor-acceptor compounds. <i>Physical Review Letters</i> , <b>2010</b> , 105, 226601                             | 7.4 | 33 |
| 64 | A Printed Organic Circuit System for Wearable Amperometric Electrochemical Sensors. <i>Scientific Reports</i> , <b>2018</b> , 8, 6368   | 4.9 | 32 |
| 63 | Generation and Diffusion of Photocarriers in Molecular Donor-Acceptor Systems: Dependence on Charge-Transfer Gap Energy. <i>Journal of Physical Chemistry C</i> , <b>2012</b> , 116, 23957-23964                          | 3.8 | 30 |
| 62 | Field-modulation spectroscopy of pentacene thin films using field-effect devices: Reconsideration of the excitonic structure. <i>Physical Review B</i> , <b>2010</b> , 82,  | 3.3 | 30 |
| 61 | Hybrid energy-minimization simulation of equilibrium droplet shapes on hydrophilic/hydrophobic patterned surfaces. <i>Langmuir</i> , <b>2012</b> , 28, 15450-3  | 4   | 28 |
| 60 | High-Yield, Highly Uniform Solution-Processed Organic Transistors Integrated into Flexible Organic Circuits. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1600410  | 6.4 | 27 |
| 59 | Uniform, high performance, solution processed organic thin-film transistors integrated in 1 MHz frequency ring oscillators. <i>Organic Electronics</i> , <b>2018</b> , 54, 40-47  | 3.5 | 27 |
| 58 | Control of film morphology and its effects on subthreshold characteristics in dibenzotetrathiafulvalene organic thin-film transistors. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 233306                          | 3.4 | 27 |

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|----|---|------|----|
| 57 | Short-Channel Solution-Processed Organic Semiconductor Transistors and their Application in High-Speed Organic Complementary Circuits and Organic Rectifiers. <i>Advanced Electronic Materials</i> , <b>2015</b> , 1, 1500178 | 6.4  | 23 |
| 56 | Low Operating Voltage and Highly Pressure-Sensitive Printed Sensor for Healthcare Monitoring with Analogic Amplifier Circuit. <i>ACS Applied Electronic Materials</i> , <b>2019</b> , 1, 246-252                              | 4    | 22 |
| 55 | All solution-processed organic single-crystal transistors with high mobility and low-voltage operation. <i>Organic Electronics</i> , <b>2015</b> , 22, 1-4  | 3.5  | 22 |
| 54 | Solid phase epitaxy of ferrimagnetic Y <sub>3</sub> Fe <sub>5</sub> O <sub>12</sub> garnet thin films. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 092505  | 3.4  | 22 |
| 53 | Underlying Mechanism of Inkjet Printing of Uniform Organic Semiconductor Films Through Antisolvent Crystallization. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 4022-4031  | 15.6 | 21 |
| 52 | Printed 5-V organic operational amplifiers for various signal processing. <i>Scientific Reports</i> , <b>2018</b> , 8, 8980   | 4.9  | 20 |
| 51 | Printed Organic Transistor-Based Enzyme Sensor for Continuous Glucose Monitoring in Wearable Healthcare Applications. <i>ChemElectroChem</i> , <b>2018</b> , 5, 3881-3886   | 4.3  | 19 |
| 50 | Distribution of localized states from fine analysis of electron spin resonance spectra of organic semiconductors: Physical meaning and methodology. <i>Physical Review B</i> , <b>2012</b> , 85,                              | 3.3  | 18 |
| 49 | Printed Organic Transistor-based Biosensors for Non-invasive Sweat Analysis. <i>Analytical Sciences</i> , <b>2020</b> , 36, 291-302   | 1.7  | 18 |
| 48 | Strain-Modulated Charge Transport in Flexible PbS Nanocrystal Field-Effect Transistors. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1600360   | 6.4  | 17 |
| 47 | The emergence of charge coherence in soft molecular organic semiconductors via the suppression of thermal fluctuations. <i>NPG Asia Materials</i> , <b>2016</b> , 8, e252-e252  | 10.3 | 17 |
| 46 | Broadening of Distribution of Trap States in PbS Quantum Dot Field-Effect Transistors with High-k Dielectrics. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 4719-4724                                     | 9.5  | 16 |
| 45 | Ferroelectric polymer-based fully printed flexible strain rate sensors and their application for human motion capture. <i>Sensors and Actuators A: Physical</i> , <b>2019</b> , 295, 93-98                                    | 3.9  | 16 |
| 44 | Chemical potential shift in organic field-effect transistors identified by soft X-ray operando nano-spectroscopy. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 251604  | 3.4  | 16 |
| 43 | Printed Strain Sensor with High Sensitivity and Wide Working Range Using a Novel Brittle-Stretchable Conductive Network. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 35282-35290                        | 9.5  | 16 |
| 42 | Compact Organic Complementary D-Type Flip-Flop Circuits Fabricated with Inkjet Printing. <i>Advanced Electronic Materials</i> , <b>2017</b> , 3, 1700208  | 6.4  | 16 |
| 41 | Control of molecular doping in conjugated polymers by thermal annealing. <i>Organic Electronics</i> , <b>2017</b> , 47, 139-146   | 3.5  | 15 |
| 40 | Detection of 1,5-anhydroglucitol as a Biomarker for Diabetes Using an Organic Field-Effect Transistor-Based Biosensor. <i>Technologies</i> , <b>2018</b> , 6, 77  | 2.4  | 15 |

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|----|---|-----|----|
| 39 | . <i>IEEE Journal of the Electron Devices Society</i> , <b>2019</b> , 7, 566-574  | 2.3 | 14 |
| 38 | Solution-processed single-crystalline organic transistors on patterned ultrathin gate insulators. <i>Organic Electronics</i> , <b>2014</b> , 15, 1184-1188  | 3.5 | 14 |
| 37 | Visualization of accumulated charge density in operating organic thin-film transistors. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 223301   | 3.4 | 14 |
| 36 | Spontaneously formed high-performance charge-transport layers of organic single-crystal semiconductors on precisely synthesized insulating polymers. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 163302 | 3.4 | 13 |
| 35 | High performance oxygen-bridged N-shaped semiconductors with a stabilized crystal phase and blue luminescence. <i>RSC Advances</i> , <b>2016</b> , 6, 28966-28969   | 3.7 | 13 |
| 34 | Static and Dynamic Response Comparison of Printed, Single- and Dual-Gate 3-D Complementary Organic TFT Inverters. <i>IEEE Electron Device Letters</i> , <b>2019</b> , 40, 1277-1280                             | 4.4 | 12 |
| 33 | Flexible PMOS Inverter and NOR Gate Using Inkjet-Printed Dual-Gate Organic Thin Film Transistors. <i>IEEE Electron Device Letters</i> , <b>2020</b> , 41, 409-412   | 4.4 | 12 |
| 32 | Gradual improvements of charge carrier mobility at ionic liquid/rubrene single crystal interfaces. <i>Applied Physics Letters</i> , <b>2016</b> , 108, 083113   | 3.4 | 12 |
| 31 | Flexible inkjet-printed dual-gate organic thin film transistors and PMOS inverters: Noise margin control by top gate. <i>Organic Electronics</i> , <b>2020</b> , 85, 105847                                     | 3.5 | 11 |
| 30 | Observation and simulation of microdroplet shapes on surface-energy-patterned substrates: Contact line engineering for printed electronics. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 044905       | 2.5 | 10 |
| 29 | Direct Observation of Field-Induced Carrier Dynamics in Pentacene Thin-Film Transistors by Electron Spin Resonance Spectroscopy. <i>Japanese Journal of Applied Physics</i> , <b>2009</b> , 48, 04C175          | 1.4 | 10 |
| 28 | Paper-based lactate biofuel cell array with high power output. <i>Journal of Power Sources</i> , <b>2021</b> , 489, 229533  | 3.3 | 10 |
| 27 | Printed Organic Complementary Inverter with Single SAM Process Using a p-type D-A Polymer Semiconductor. <i>Applied Sciences (Switzerland)</i> , <b>2018</b> , 8, 1331  | 2.6 | 10 |
| 26 | An L-lactate Biosensor Based on Printed Organic Inverter Circuitry and with a Tunable Detection Limit. <i>Sensors and Materials</i> , <b>2019</b> , 31, 1205  | 1.5 | 8  |
| 25 | Regioisomeric control of layered crystallinity in solution-processable organic semiconductors.. <i>Chemical Science</i> , <b>2020</b> , 11, 12493-12505   | 9.4 | 8  |
| 24 | Tunable doping in PbS nanocrystal field-effect transistors using surface molecular dipoles. <i>APL Materials</i> , <b>2016</b> , 4, 116105  | 5.7 | 7  |
| 23 | Charge Carrier Distribution in Low-Voltage Dual-Gate Organic Thin-Film Transistors. <i>Applied Sciences (Switzerland)</i> , <b>2018</b> , 8, 1341   | 2.6 | 6  |
| 22 | Field-Induced ESR Spectroscopy on Rubrene Single-Crystal Field-Effect Transistors. <i>Materials Research Society Symposia Proceedings</i> , <b>2009</b> , 1154, 1   |     | 6  |

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|----|--|------|---|
| 21 | Architecting Layered Crystalline Organic Semiconductors Based on Unsymmetric $\pi$ -Extended Thienoacenes. <i>Chemistry of Materials</i> , <b>2021</b> , 33, 7379-7385   | 9.6  | 6 |
| 20 | High-Speed Complementary Integrated Circuit with a Stacked Structure Using Fine Electrodes Formed by Reverse Offset Printing. <i>ACS Applied Electronic Materials</i> , <b>2020</b> , 2, 763-768   | 4    | 5 |
| 19 | Formaldehyde Detection by a Combination of Formaldehyde Dehydrogenase and Chitosan on a Sensor Based on an Organic Field-Effect Transistor. <i>Technologies</i> , <b>2019</b> , 7, 48  | 2.4  | 5 |
| 18 | Numerical aspect of large-scale electronic state calculation for flexible device material. <i>Japan Journal of Industrial and Applied Mathematics</i> , <b>2019</b> , 36, 685-698  | 0.6  | 5 |
| 17 | Rapid improvements in charge carrier mobility at ionic liquid/pentacene single crystal interfaces by self-cleaning. <i>Physical Chemistry Chemical Physics</i> , <b>2020</b> , 22, 6131-6135   | 3.6  | 4 |
| 16 | Switching Time in Ferroelectric Organic Field-Effect Transistors. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2018</b> , 215, 1701059   | 1.6  | 4 |
| 15 | Nanosecond Time-Resolved Microscopic Gate-Modulation Imaging of Polycrystalline Organic Thin-Film Transistors. <i>Physical Review Applied</i> , <b>2018</b> , 9,   | 4.3  | 3 |
| 14 | Optical Stark Effect of Exciton in Semiconducting Single-Walled Carbon Nanotubes. <i>Japanese Journal of Applied Physics</i> , <b>2006</b> , 45, L513-L515   | 1.4  | 3 |
| 13 | 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> , <b>2021</b> , 54, 315102   | 3    | 3 |
| 12 | 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> , <b>2021</b> , 278, 116808      | 3.6  | 2 |
| 11 | Transmission electron diffraction study of a uniaxially-ordered high-mobility polymeric semiconductor. <i>Microscopy (Oxford, England)</i> , <b>2019</b> , 68, 167-173   | 1.3  | 1 |
| 10 | High carrier density, electrostatic doping in organic single crystal semiconductors using electret polymers. <i>Applied Physics Express</i> , <b>2019</b> , 12, 071001   | 2.4  | 1 |
| 9  | Visualizing Quasi-Static Electric Fields with Flexible and Printed Organic Transistors. <i>Advanced Materials Technologies</i> , 2100723   | 6.8  | 1 |
| 8  | 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> , <b>2021</b> , 16,                           | 4.3  | 1 |
| 7  | 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> , <b>2022</b> , 55, 135105  | 3    | 0 |
| 6  | Printed Electronics: Organic Complementary Inverter Circuits Fabricated with Reverse Offset Printing (Adv. Electron. Mater. 1/2018). <i>Advanced Electronic Materials</i> , <b>2018</b> , 4, 1870008                                     | 6.4  |   |
| 5  | ESR Study of Carrier Dynamics in Organic Semiconductor Interfaces. <i>Hyomen Kagaku</i> , <b>2014</b> , 35, 209-214  |      |   |
| 4  | 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> , <b>2015</b> , 25, 4021-4021 | 15.6 |   |

- 3 Competition between Exciplex Formation and Photocarrier Generation in Molecular-Scale Donor-Acceptor Heterojunctions. *Materials Research Society Symposia Proceedings*, **2013**, 1435, 55
- 2 ESR Anisotropy of Organic Semiconductor Molecules: Calculation and Experiment. *Materials Research Society Symposia Proceedings*, **2012**, 1436, 6
- 1 Device Physics of Organic Field-effect Transistors **2021**, 245-271