Jun Takeya

List of Publications by Year
in descending order

102 papers	6,620 citations	87888 38 h-index	62596 80 g-index
103 all docs	103 docs citations	103 times ranked	6003 citing authors

#	Article	IF	Citations
1	Very high-mobility organic single-crystal transistors with in-crystal conduction channels. Applied Physics Letters, 2007, 90, 102120.	3.3	697
2	Patternable Solutionâ€Crystallized Organic Transistors with High Charge Carrier Mobility. Advanced Materials, 2011, 23, 1626-1629.	21.0	337
3	Organic field-effect transistors using single crystals. Science and Technology of Advanced Materials, 2009, 10, 024314.	6.1	332
4	Self-assembly as a key player for materials nanoarchitectonics. Science and Technology of Advanced Materials, 2019, 20, 51-95.	6.1	322
5	Very High Mobility in Solution-Processed Organic Thin-Film Transistors of Highly Ordered [1]Benzothieno[3,2-b]benzothiophene Derivatives. Applied Physics Express, 2009, 2, 111501.	2.4	254
6	Wafer-scale, layer-controlled organic single crystals for high-speed circuit operation. Science Advances, 2018, 4, eaao5758.	10.3	237
7	Efficient molecular doping of polymeric semiconductors driven by anion exchange. Nature, 2019, 572, 634-638.	27.8	208
8	Highâ€Performance Solutionâ€Processable Nâ€Shaped Organic Semiconducting Materials with Stabilized Crystal Phase. Advanced Materials, 2014, 26, 4546-4551.	21.0	206
9	Vâ€Shaped Organic Semiconductors With Solution Processability, High Mobility, and High Thermal Durability. Advanced Materials, 2013, 25, 6392-6397.	21.0	196
10	Doping of Organic Semiconductors: Impact of Dopant Strength and Electronic Coupling. Angewandte Chemie - International Edition, 2013, 52, 7751-7755.	13.8	186
11	On the Extraction of Charge Carrier Mobility in Highâ€Mobility Organic Transistors. Advanced Materials, 2016, 28, 151-155.	21.0	178
12	In-Crystal and Surface Charge Transport of Electric-Field-Induced Carriers in Organic Single-Crystal Semiconductors. Physical Review Letters, 2007, 98, 196804.	7.8	161
13	Solutionâ€Crystallized Organic Fieldâ€Effect Transistors with Chargeâ€Acceptor Layers: Highâ€Mobility and Lowâ€Thresholdâ€Voltage Operation in Air. Advanced Materials, 2011, 23, 3309-3314.	21.0	156
14	Hall Effect of Quasi-Hole Gas in Organic Single-Crystal Transistors. Japanese Journal of Applied Physics, 2005, 44, L1393-L1396.	1.5	154
15	Mobility Exceeding 10 cm²/(VÂ·s) in Donorâ€“Acceptor Polymer Transistors with Band-like Charge Transport. Chemistry of Materials, 2016, 28, 420-424.	6.7	147
16	Robust, high-performance n-type organic semiconductors. Science Advances, 2020, 6, eaaz0632.	10.3	135
17	Coexistence of ultra-long spin relaxation time andÂcoherent charge transport in organic single-crystal semiconductors. Nature Physics, 2017, 13, 994-998.	16.7	126
18	Soft 2D nanoarchitectonics. NPG Asia Materials, 2018, 10, 90-106.	7.9	121

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19	High Electron Mobility in Air for N,Nâ€²â€²-1H,1Hâ€²Perfluorobutyldicyanoperylene Carboxydiâ€imide Solutionâ€Crystallized Thinâ€Film Transistors on Hydrophobic Surfaces. Advanced Materials, 2011, 23, 3681-3685.	21.0	119
20	Bent-Shaped p-Type Small-Molecule Organic Semiconductors: A Molecular Design Strategy for Next-Generation Practical Applications. Journal of the American Chemical Society, 2020, 142, 9083-9096.	13.7	108
21	Suppressing molecular vibrations in organic semiconductors by inducing strain. Nature Communications, 2016, 7, 11156.	12.8	105
22	Inch-Size Solution-Processed Single-Crystalline Films of High-Mobility Organic Semiconductors. Applied Physics Express, 2013, 6, 076503.	2.4	102
23	Hall-Effect Measurements Probing the Degree of Charge-Carrier Delocalization in Solution-Processed Crystalline Molecular Semiconductors. Physical Review Letters, 2011, 107, 066601.	7.8	101
24	Boron-Stabilized Planar Neutral Ï€-Radicals with Well-Balanced Ambipolar Charge-Transport Properties. Journal of the American Chemical Society, 2017, 139, 14336-14339.	13.7	97
25	Single-crystal field-effect transistors of benzoannulated fused oligothiophenes and oligoselenophenes. Applied Physics Letters, 2007, 90, 072102.	3.3	82
26	Atom/molecular nanoarchitectonics for devices and related applications. Nano Today, 2019, 28, 100762.	11.9	77
27	Band-like transport in solution-crystallized organic transistors. Current Applied Physics, 2012, 12, S87-S91.	2.4	63
28	Transition Between Band and Hopping Transport in Polymer Fieldâ€Effect Transistors. Advanced Materials, 2014, 26, 8169-8173.	21.0	61
29	Painting Integrated Complementary Logic Circuits for Singleâ€Crystal Organic Transistors: A Demonstration of a Digital Wireless Communication Sensing Tag. Advanced Electronic Materials, 2017, 3, 1600456.	5.1	57
30	Highâ€Speed Organic Singleâ€Crystal Transistor Responding to Very High Frequency Band. Advanced Functional Materials, 2020, 30, 1909501.	14.9	57
31	Free-electron-like Hall effect in high-mobility organic thin-film transistors. Physical Review B, 2010, 81, .	3.2	53
32	Temperature dependence of the Hall effect in pentacene field-effect transistors: Possibility of charge decoherence induced by molecular fluctuations. Physical Review B, 2012, 85, .	3.2	50
33	Furan fused V-shaped organic semiconducting materials with high emission and high mobility. Chemical Communications, 2014, 50, 5342-5344.	4.1	49
34	High-speed organic transistors with three-dimensional organic channels and organic rectifiers based on them operating above 20MHz. Organic Electronics, 2015, 20, 119-124.	2.6	49
35	Molecular doping in organic semiconductors: fully solution-processed, vacuum-free doping with metalâ€“organic complexes in an orthogonal solvent. Journal of Materials Chemistry C, 2017, 5, 12023-12030.	5.5	46
36	Highâ€Mobility Organic Transistors with Wetâ€Etchâ€Patterned Top Electrodes: A Novel Patterning Method for Fineâ€Pitch Integration of Organic Devices. Advanced Materials Interfaces, 2014, 1, 1300124.	3.7	44

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37	Strongly correlated superconductivity in a copper-based metal-organic framework with a perfect kagome lattice. Science Advances, 2021, 7, .	10.3	44
38	Zigzagâ€Elongated Fused Ï€â€Electronic Core: A Molecular Design Strategy to Maximize Chargeâ€Carrier Mobility. Advanced Science, 2018, 5, 1700317.	11.2	43
39	Scalable Fabrication of Organic Single-Crystalline Wafers for Reproducible TFT Arrays. Scientific Reports, 2019, 9, 15897.	3.3	39
40	Structural investigation of ionic liquid/rubrene single crystal interfaces by using frequency-modulation atomic force microscopy. Chemical Communications, 2013, 49, 10596.	4.1	38
41	High-speed organic single-crystal transistors gated with short-channel air gaps: Efficient hole and electron injection in organic semiconductor crystals. Organic Electronics, 2013, 14, 1656-1662.	2.6	38
42	Nitrogen-Containing Perylene Diimides: Molecular Design, Robust Aggregated Structures, and Advances in n-Type Organic Semiconductors. Accounts of Chemical Research, 2022, 55, 660-672.	15.6	38
43	Review of advanced sensor devices employing nanoarchitectonics concepts. Beilstein Journal of Nanotechnology, 2019, 10, 2014-2030.	2.8	37
44	A Large Anisotropic Enhancement of the Charge Carrier Mobility of Flexible Organic Transistors with Strain: A Hall Effect and Raman Study. Advanced Science, 2020, 7, 1901824.	11.2	37
45	Enabling Ambipolar to Heavy n-Type Transport in PbS Quantum Dot Solids through Doping with Organic Molecules. ACS Applied Materials & Interfaces, 2017, 9, 18039-18045.	8.0	34
46	Splitâ€Gate Organic Fieldâ€Effect Transistors for Highâ€Speed Operation. Advanced Materials, 2014, 26, 2983-2988.	21.0	33
47	Stable growth of large-area single crystalline thin films from an organic semiconductor/polymer blend solution for high-mobility organic field-effect transistors. Organic Electronics, 2016, 39, 127-132.	2.6	33
48	High-performance, semiconducting membrane composed of ultrathin, single-crystal organic semiconductors. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 80-85.	7.1	32
49	Oxygen- and Sulfur-Bridged Bianthracene V-Shaped Organic Semiconductors. Bulletin of the Chemical Society of Japan, 2017, 90, 931-938.	3.2	28
50	Validity of the Mott formula and the origin of thermopower in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Ï€</mml:mi></mml:math> -conjugated semicrystalline polymers. Physical Review B, 2019, 100, .	3.2	26
51	Alkyl-Substituted Selenium-Bridged V-Shaped Organic Semiconductors Exhibiting High Hole Mobility and Unusual Aggregation Behavior. Journal of the American Chemical Society, 2020, 142, 14974-14984.	13.7	25
52	Solution-processed flexible metal-oxide thin-film transistors operating beyond 20 MHz. Flexible and Printed Electronics, 2020, 5, 015003.	2.7	25
53	Two-dimensional hole gas in organic semiconductors. Nature Materials, 2021, 20, 1401-1406.	27.5	25
54	Correlation between the static and dynamic responses of organic single-crystal field-effect transistors. Nature Communications, 2020, 11, 4839.	12.8	24

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55	Remarkably low flicker noise in solution-processed organic single crystal transistors. Communications Physics, 2018, 1, .	5.3	23
56	Air-Stable Benzo[c]thiophene Diimide n-Type Ï€-Electron Core. Organic Letters, 2019, 21, 4448-4453.	4.6	23
57	All solution-processed organic single-crystal transistors with high mobility and low-voltage operation. Organic Electronics, 2015, 22, 1-4.	2.6	22
58	High performance solution-crystallized thin-film transistors based on V-shaped thieno[3,2-f:4,5-fâ€²]bis[1]benzothiophene semiconductors. Journal of Materials Chemistry C, 2017, 5, 1903-1909.	5.5	22
59	Broadening of Distribution of Trap States in PbS Quantum Dot Field-Effect Transistors with High-k Dielectrics. ACS Applied Materials & Interfaces, 2017, 9, 4719-4724.	8.0	20
60	Control of molecular doping in conjugated polymers by thermal annealing. Organic Electronics, 2017, 47, 139-146.	2.6	20
61	Strainâ€Modulated Charge Transport in Flexible PbS Nanocrystal Fieldâ€Effect Transistors. Advanced Electronic Materials, 2017, 3, 1600360.	5.1	20
62	Coherent Electron Transport in Airâ€Stable, Printed Singleâ€Crystal Organic Semiconductor and Application to Megahertz Transistors. Advanced Materials, 2020, 32, e2003245.	21.0	19
63	Carrier dynamics of rubrene single-crystals revealed by transient broadband terahertz spectroscopy. Applied Physics Letters, 2014, 105, .	3.3	17
64	Nanoarchitectonicâ€Based Material Platforms for Environmental and Bioprocessing Applications. Chemical Record, 2019, 19, 1891-1912.	5.8	17
65	Damage-free Metal Electrode Transfer to Monolayer Organic Single Crystalline Thin Films. Scientific Reports, 2020, 10, 4702.	3.3	17
66	Supramolecular cocrystals built through redox-triggered ion intercalation in Ï€-conjugated polymers. Communications Materials, 2021, 2, .	6.9	16
67	Solution-crystallized n-type organic thin-film transistors: An impact of branched alkyl chain on high electron mobility and thermal durability. Organic Electronics, 2018, 62, 548-553.	2.6	15
68	Correlation between thermal fluctuation effects and phase coherence factor in carrier transport of single-crystal organic semiconductors. Applied Physics Letters, 2015, 106, .	3.3	14
69	Spontaneously formed high-performance charge-transport layers of organic single-crystal semiconductors on precisely synthesized insulating polymers. Applied Physics Letters, 2017, 110, .	3.3	14
70	Cooperative Aggregations of Nitrogen-Containing Perylene Diimides Driven by Rigid and Flexible Functional Groups. Chemistry of Materials, 2020, 32, 9115-9125.	6.7	14
71	Electrolessâ€Plated Gold Contacts for Highâ€Performance, Low Contact Resistance Organic Thin Film Transistors. Advanced Functional Materials, 2020, 30, 2003977.	14.9	14
72	Hyper 100 Â°C Langmuirâ€“Blodgett (Langmuirâ€“Schaefer) Technique for Organized Ultrathin Film of Polymeric Semiconductors. Langmuir, 2022, 38, 5237-5247.	3.5	14

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73	Mixed-Orbital Charge Transport in N-Shaped Benzene- and Pyrazine-Fused Organic Semiconductors. Journal of the American Chemical Society, 2022, 144, 11159-11167.	13.7	14
74	Microscopic properties of ionic liquid/organic semiconductor interfaces revealed by molecular dynamics simulations. Physical Chemistry Chemical Physics, 2018, 20, 13075-13083.	2.8	13
75	Charge mobility calculation of organic semiconductors without use of experimental single-crystal data. Scientific Reports, 2020, 10, 2524.	3.3	13
76	Low-voltage complementary inverters using solution-processed, high-mobility organic single-crystal transistors fabricated by polymer-blend printing. Applied Physics Letters, 2020, 117, 033301.	3.3	12
77	Charge modulation infrared spectroscopy of rubrene single-crystal field-effect transistors. Applied Physics Letters, 2013, 102, .	3.3	11
78	Controlled steric selectivity in molecular doping towards closest-packed supramolecular conductors. Communications Materials, 2020, 1, .	6.9	11
79	Evaluations of nonlocal electron-phonon couplings in tetracene, rubrene, and C10â^'DNBDTâ^'NW based on density functional theory. Physical Review B, 2020, 102, .	3.2	11
80	Patterned Quantum Dot Photosensitive FETs for Medium Frequency Optoelectronics. Advanced Materials Technologies, 2019, 4, 1900054.	5.8	10
81	Sub-molecular structural relaxation at a physisorbed interface with monolayer organic single-crystal semiconductors. Communications Physics, 2020, 3, .	5.3	10
82	Role of Perfluorophenyl Group in the Side Chain of Small-Molecule n-Type Organic Semiconductors in Stress Stability of Single-Crystal Transistors. Journal of Physical Chemistry Letters, 2021, 12, 2095-2101.	4.6	10
83	Surface Doping of Organic Singleâ€Crystal Semiconductors to Produce Strainâ€Sensitive Conductive Nanosheets. Advanced Science, 2021, 8, 2002065.	11.2	10
84	Strong and Atmospherically Stable Dicationic Oxidative Dopant. Advanced Science, 2021, 8, e2101998.	11.2	10
85	Approaching isotropic charge transport of n-type organic semiconductors with bulky substituents. Communications Chemistry, 2021, 4, .	4.5	10
86	Impact of Phenyl Groups on Oxygen-bridged V-shaped Organic Semiconductors. Chemistry Letters, 2017, 46, 338-341.	1.3	9
87	Scalable printing of two-dimensional single crystals of organic semiconductors towards high-end device applications. Applied Physics Express, 2022, 15, 030101.	2.4	9
88	Doped semiconducting polymer nanoantennas for tunable organic plasmonics. Communications Materials, 2022, 3, .	6.9	9
89	Stabilizing solution-processed metal oxide thin-film transistors via trilayer organicâ€“inorganic hybrid passivation. AIP Advances, 2021, 11, .	1.3	8
90	Band mobility exceeding 10â€‰cm2 Vâ^'1 sâ^'1 assessed by field-effect and chemical double doping in semicrystalline polymeric semiconductors. Applied Physics Letters, 2021, 119, 013302.	3.3	8

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91	Correlation between coherent charge transport and crystallinity in doped Ï€-conjugated polymers. Applied Physics Express, 2019, 12, 011004.	2.4	7
92	Band-like transporting and thermally durable V-shaped organic semiconductors with a phenyl key block. Journal of Materials Chemistry C, 2020, 8, 14172-14179.	5.5	7
93	Highly air-stable, n-doped conjugated polymers achieved by dimeric organometallic dopants. Journal of Materials Chemistry C, 2021, 9, 4105-4111.	5.5	7
94	Nanoâ€Ground Glass as a Superhydrophilic Template for Printing Highâ€Performance Organic Singleâ€Crystal Thin Films. Advanced Materials Interfaces, 2021, 8, 2100033.	3.7	5
95	Evaluating intrinsic mobility from transient terahertz conductivity spectra of microcrystal samples of organic molecular semiconductors. Applied Physics Letters, 2019, 115, .	3.3	3
96	Scattering mechanism of hole carriers in organic molecular semiconductors deduced from analyses of terahertz absorption spectra using Drudeâ€“Anderson model. Applied Physics Letters, 2022, 120, .	3.3	3
97	Alkylated oxygen-bridged V-shaped molecules: impacts of the substitution position and length of the alkyl chains on the crystal structures and fundamental properties in aggregated forms. Polymer Journal, 2017, 49, 215-221.	2.7	2
98	Multiple magnetic order parameters coexisting in multiferroic hexaferrites resolved by soft x rays. Journal of Applied Physics, 2020, 128, .	2.5	2
99	Regioselective Functionalization of Nitrogen-Embedded Perylene Diimides for High-Performance Organic Electron-Transporting Materials. Bulletin of the Chemical Society of Japan, 2022, 95, 953-960.	3.2	2
100	Effect of Electronically Distinct Aromatic Substituents on the Molecular Assembly and Hole Transport of V-Shaped Organic Semiconductors. Journal of Physical Chemistry C, 2020, 124, 17503-17511.	3.1	1
101	Organic Field-Effect Transistors: High Electron Mobility in Air for N,Nâ€²-1H,1H-Perfluorobutyldicyanoperylene Carboxydi-imide Solution-Crystallized Thin-Film Transistors on Hydrophobic Surfaces (Adv. Mater. 32/2011). Advanced Materials, 2011, 23, 3680-3680.	21.0	0
102	Gate induced modulation of electronic states in monolayer organic field-effect transistor. Applied Physics Letters, 2021, 119, 223301.	3.3	0