Myung-Han Yoon

List of Publications by Year
in descending order

99 papers	8,921 citations	101543 36 h-index	39675 94 g-index
107 all docs	107 docs citations	107 times ranked	11180 citing authors

#	Article	IF	Citations
1	Flexible metal-oxide devices made by room-temperature photochemical activation of solâ€“gel films. Nature, 2012, 489, 128-132.	27.8	975
2	High-Mobility Air-Stable n-Type Semiconductors with Processing Versatility: Dicyanoperylene-3,4:9,10-bis(dicarboximides). Angewandte Chemie - International Edition, 2004, 43, 6363-6366.	13.8	808
3	Vertical nanowire electrode arrays as a scalable platform for intracellular interfacing to neuronal circuits. Nature Nanotechnology, 2012, 7, 180-184.	31.5	532
4	Vertical silicon nanowires as a universal platform for delivering biomolecules into living cells. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1870-1875.	7.1	518
5	Gate Dielectric Chemical Structureâ^'Organic Field-Effect Transistor Performance Correlations for Electron, Hole, and Ambipolar Organic Semiconductors. Journal of the American Chemical Society, 2006, 128, 12851-12869.	13.7	454
6	Building Blocks for n-Type Organic Electronics: Regiochemically Modulated Inversion of Majority Carrier Sign in Perfluoroarene-Modified Polythiophene Semiconductors. Angewandte Chemie - International Edition, 2003, 42, 3900-3903.	13.8	402
7	Low-Voltage Organic Field-Effect Transistors and Inverters Enabled by Ultrathin Cross-Linked Polymers as Gate Dielectrics. Journal of the American Chemical Society, 2005, 127, 10388-10395.	13.7	401
8	Organic Thin-Film Transistors Based on Carbonyl-Functionalized Quaterthiophenes:Â High Mobility N-Channel Semiconductors and Ambipolar Transport. Journal of the American Chemical Society, 2005, 127, 1348-1349.	13.7	365
9	Building Blocks for N-Type Molecular and Polymeric Electronics. Perfluoroalkyl- versus Alkyl-Functionalized Oligothiophenes (nTs;n= 2â^'6). Systematic Synthesis, Spectroscopy, Electrochemistry, and Solid-State Organization. Journal of the American Chemical Society, 2004, 126, 13480-13501.	13.7	362
10	High-performance transparent inorganicâ€“organic hybrid thin-film n-type transistors. Nature Materials, 2006, 5, 893-900.	27.5	330
11	Fluorocarbon-Modified Organic Semiconductors:Â Molecular Architecture, Electronic, and Crystal Structure Tuning of Arene- versus Fluoroarene-Thiophene Oligomer Thin-Film Properties. Journal of the American Chemical Society, 2006, 128, 5792-5801.	13.7	302
12	Influence of PEDOT:PSS crystallinity and composition on electrochemical transistor performance and long-term stability. Nature Communications, 2018, 9, 3858.	12.8	276
13	From The Cover: Â-Â molecular dielectric multilayers for low-voltage organic thin-film transistors. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 4678-4682.	7.1	257
14	Sol-gel metal oxide dielectrics for all-solution-processed electronics. Materials Science and Engineering Reports, 2017, 114, 1-22.	31.8	180
15	Inâ€Depth Studies on Rapid Photochemical Activation of Various Solâ€“Gel Metal Oxide Films for Flexible Transparent Electronics. Advanced Functional Materials, 2015, 25, 2807-2815.	14.9	172
16	Flexible molecular-scale electronic devices. Nature Nanotechnology, 2012, 7, 438-442.	31.5	165
17	Significant Vertical Phase Separation in Solvent-Vapor-Annealed Poly(3,4-ethylenedioxythiophene):Poly(styrene sulfonate) Composite Films Leading to Better Conductivity and Work Function for High-Performance Indium Tin Oxide-Free Optoelectronics. ACS Applied Materials & Interfaces, 2012, 4, 2551-2560.	8.0	162
18	Low Operating Voltage Single ZnO Nanowire Field-Effect Transistors Enabled by Self-Assembled Organic Gate Nanodielectrics. Nano Letters, 2005, 5, 2281-2286.	9.1	150

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19	Organic Nanodielectrics for Low Voltage Carbon Nanotube Thin Film Transistors and Complementary Logic Gates. Journal of the American Chemical Society, 2005, 127, 13808-13809.	13.7	120
20	Largeâ€Scale Precise Printing of Ultrathin Solâ€“Gel Oxide Dielectrics for Directly Patterned Solutionâ€Processed Metal Oxide Transistor Arrays. Advanced Materials, 2015, 27, 5043-5048.	21.0	117
21	Microplastic particles in the aquatic environment: A systematic review. Science of the Total Environment, 2021, 775, 145793.	8.0	101
22	Organic electrochemical transistor-based channel dimension-independent single-strand wearable sweat sensors. NPG Asia Materials, 2018, 10, 1086-1095.	7.9	79
23	Robust PEDOT:PSS Wetâ€Spun Fibers for Thermoelectric Textiles. Macromolecular Materials and Engineering, 2020, 305, 1900749.	3.6	68
24	Optically transparent semiconducting polymer nanonetwork for flexible and transparent electronics. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14261-14266.	7.1	67
25	High-performance, polymer-based direct cellular interfaces for electrical stimulation and recording. NPG Asia Materials, 2018, 10, 255-265.	7.9	65
26	Low-Voltage Flexible Organic Electronics Based on High-Performance Solâ€“Gel Titanium Dioxide Dielectric. ACS Applied Materials & Interfaces, 2015, 7, 7456-7461.	8.0	54
27	Sub-0.5 V Highly Stable Aqueous Salt Gated Metal Oxide Electronics. Scientific Reports, 2015, 5, 13088.	3.3	51
28	Strainâ€Engineering Induced Anisotropic Crystallite Orientation and Maximized Carrier Mobility for Highâ€Performance Microfiberâ€Based Organic Bioelectronic Devices. Advanced Materials, 2021, 33, e2007550.	21.0	51
29	Polypyrrole multilayer-laminated cellulose for large-scale repeatable mercury ion removal. Journal of Materials Chemistry A, 2016, 4, 12425-12433.	10.3	50
30	Enhanced Photocatalytic Performance Depending on Morphology of Bismuth Vanadate Thin Film Synthesized by Pulsed Laser Deposition. ACS Applied Materials & Interfaces, 2017, 9, 505-512.	8.0	50
31	Atomic Vacancy Control and Elemental Substitution in a Monolayer Molybdenum Disulfide for High Performance Optoelectronic Device Arrays. Advanced Functional Materials, 2020, 30, 1908147.	14.9	50
32	Highâ€Performance nâ€Type Organic Electrochemical Transistors Enabled by Aqueous Solution Processing of Amphiphilicityâ€Driven Polymer Assembly. Advanced Functional Materials, 2022, 32, 2111950.	14.9	46
33	Ultralow-Temperature Solution-Processed Aluminum Oxide Dielectrics via Local Structure Control of Nanoclusters. ACS Applied Materials & Interfaces, 2017, 9, 35114-35124.	8.0	44
34	Plasmonic Silver Nanoparticle-Impregnated Nanocomposite BiVO₄ Photoanode for Plasmon-Enhanced Photocatalytic Water Splitting. Journal of Physical Chemistry C, 2018, 122, 7088-7093.	3.1	42
35	Peptoid helicity modulation: precise control of peptoid secondary structures via position-specific placement of chiral monomers. Chemical Communications, 2014, 50, 4465-4468.	4.1	40
36	Direct patterning of solâ€“gel metal oxide semiconductor and dielectric films via selective surface wetting. RSC Advances, 2015, 5, 38125-38129.	3.6	40

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37	Mapping cell behavior across a wide range of vertical silicon nanocolumn densities. Nanoscale, 2017, 9, 5517-5527.	5.6	39
38	Synaptic organic transistors with a vacuum-deposited charge-trapping nanosheet. Scientific Reports, 2016, 6, 33355.	3.3	37
39	Axon-First Neuritogenesis on Vertical Nanowires. Nano Letters, 2016, 16, 675-680.	9.1	37
40	All-Polymer Conducting Fibers and 3D Prints via Melt Processing and Templated Polymerization. ACS Applied Materials & Interfaces, 2020, 12, 8713-8721.	8.0	37
41	Fabrication of highly permeable thin-film nanocomposite forward osmosis membranes via the design of novel freestanding robust nanofiber substrates. Journal of Materials Chemistry A, 2018, 6, 11700-11713.	10.3	36
42	Designing Polymeric Mixed Conductors and Their Application to Electrochemicalâ€Transistorâ€Based Biosensors. Macromolecular Bioscience, 2020, 20, e2000211.	4.1	35
43	Tissue-based metabolic labeling of polysialic acids in living primary hippocampal neurons. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E241-E248.	7.1	29
44	Potentiometric Parameterization of Dinaphtho[2,3â€b:2â€²,3â€²â€f]thieno[3,2â€b]thiophene Fieldâ€Effect Transistors with a Varying Degree of Nonidealities. Advanced Electronic Materials, 2018, 4, 1700514.	5.1	29
45	Influence of Backbone Curvature on the Organic Electrochemical Transistor Performance of Glycolated Donorâ€“Acceptor Conjugated Polymers. Angewandte Chemie - International Edition, 2021, 60, 19679-19684.	13.8	29
46	Decoupling Critical Parameters in Large-Range Crystallinity-Controlled Polypyrrole-Based High-Performance Organic Electrochemical Transistors. Chemistry of Materials, 2020, 32, 8606-8618.	6.7	26
47	An Essential Role for TAGLN2 in Phagocytosis of Lipopolysaccharide-activated Macrophages. Scientific Reports, 2017, 7, 8731.	3.3	25
48	Helicity Modulation Improves the Selectivity of Antimicrobial Peptoids. ACS Infectious Diseases, 2020, 6, 2732-2744.	3.8	25
49	Controlled Charge Trapping and Retention in Large-Area Monodisperse Protein Metal-Nanoparticle Conjugates. ACS Applied Materials & Interfaces, 2016, 8, 11898-11903.	8.0	24
50	Multiscale Modulation of Nanocrystalline Cellulose Hydrogel via Nanocarbon Hybridization for 3D Neuronal Bilayer Formation. Small, 2017, 13, 1700331.	10.0	24
51	Organic field-effect transistors based on a crosslinkable polymer blend as the semiconducting layer. Applied Physics Letters, 2005, 87, 183501.	3.3	23
52	Synthesis of low band gap polymers based on pyrrolo[3,2-d:4,5-dâ€²]bisthiazole (PBTz) and thienylenevinylene (TV) for organic thin-film transistors (OTFTs). Journal of Materials Chemistry C, 2017, 5, 2247-2258.	5.5	23
53	Proton radiation hardness of single-nanowire transistors using robust organic gate nanodielectrics. Applied Physics Letters, 2006, 89, 073510.	3.3	22
54	Zirconia nanofibers incorporated polysulfone nanocomposite membrane: Towards overcoming the permeance-selectivity trade-off. Separation and Purification Technology, 2020, 236, 116236.	7.9	21

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55	Investigation of neuronal pathfinding and construction of artificial neuronal networks on 3D-arranged porous fibrillar scaffolds with controlled geometry. Scientific Reports, 2017, 7, 7716.	3.3	17
56	Strong contact coupling of neuronal growth cones with height-controlled vertical silicon nanocolumns. Nano Research, 2018, 11, 2532-2543.	10.4	17
57	Human sweat monitoring using polymer-based fiber. Scientific Reports, 2019, 9, 17294.	3.3	17
58	Chalcogen Bridged Thieno- and Selenopheno[2,3-d:5,4-dâ€²]bisthiazole and Their Diketopyrrolopyrrole Based Low-Bandgap Copolymers. Macromolecules, 2018, 51, 6076-6084.	4.8	16
59	Low-Temperature Growth of Ferroelectric Hf_{0.5}Zr_{0.5}O₂ Thin Films Assisted by Deep Ultraviolet Light Irradiation. ACS Applied Electronic Materials, 2021, 3, 1244-1251.	4.3	16
60	Polyelectrolyte multilayer-assisted fabrication of non-periodic silicon nanocolumn substrates for cellular interface applications. Nanoscale, 2015, 7, 14627-14635.	5.6	15
61	Transparent Conducting Films Based on Reduced Graphene Oxide Multilayers for Biocompatible Neuronal Interfaces. Journal of Biomedical Nanotechnology, 2013, 9, 403-408.	1.1	14
62	Large-area printed low-voltage organic thin film transistors via minimal-solution bar-coating. Journal of Materials Chemistry C, 2020, 8, 15112-15118.	5.5	14
63	NeuO: a Fluorescent Chemical Probe for Live Neuron Labeling. Angewandte Chemie, 2015, 127, 2472-2476.	2.0	12
64	Water-insoluble, nanocrystalline, and hydrogel fibrillar scaffolds for biomedical applications. Polymer Journal, 2018, 50, 637-647.	2.7	12
65	Solutionâ€based Sulfurâ€Polymer Coating on Nanofibrillar Films for Immobilization of Aqueous Mercury Ions. Bulletin of the Korean Chemical Society, 2018, 39, 84-89.	1.9	10
66	Mechanically Robust and Highly Flexible Nonvolatile Chargeâ€Trap Memory Transistors Using Conductingâ€Polymer Electrodes and Oxide Semiconductors on Ultrathin Polyimide Film Substrates. Advanced Materials Technologies, 2019, 4, 1900348.	5.8	10
67	Gate-Planarized Low-Operating Voltage Organic Field-Effect Transistors Enabled by Hot Polymer Pressing/Embedding of Conducting Metal Lines. Journal of the American Chemical Society, 2006, 128, 4928-4929.	13.7	9
68	Vertical nanocolumn-assisted pluripotent stem cell colony formation with minimal cell-penetration. Nanoscale, 2016, 8, 18087-18097.	5.6	9
69	In Situ Tracking of Low-Temperature VO2 Crystallization via Photocombustion and Characterization of Phase-Transition Reliability on Large-Area Flexible Substrates. Chemistry of Materials, 2020, 32, 4013-4023.	6.7	9
70	High-Density Single-Layer Coating of Gold Nanoparticles onto Multiple Substrates by Using an Intrinsically Disordered Protein of Î±-Synuclein for Nanoapplications. ACS Applied Materials & Interfaces, 2017, 9, 8519-8532.	8.0	8
71	Sample preparation of chemical warfare agent simulants on a digital microfluidic (DMF) device using magnetic bead-based solid-phase extraction. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	8
72	Introduction of lithography-compatible conducting polymer as flexible electrode for oxide-based charge-trap memory transistors on plastic poly(ethylene naphthalate) substrates. Solid-State Electronics, 2018, 150, 35-40.	1.4	8

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73	Rapid and Reliable Formation of Highly Densified Bilayer Oxide Dielectrics on Silicon Substrates via DUV Photoactivation for Low-Voltage Solution-Processed Oxide Thin-Film Transistors. ACS Applied Materials & Interfaces, 2021, 13, 2820-2828.	8.0	8
74	Highâ€Currentâ€Density Organic Electrochemical Diodes Enabled by Asymmetric Active Layer Design. Advanced Materials, 2022, 34, e2107355.	21.0	8
75	Investigations on the effects of electrode materials on the device characteristics of ferroelectric memory thin film transistors fabricated on flexible substrates. Japanese Journal of Applied Physics, 2018, 57, 03DB02.	1.5	7
76	Effect of ring torsion on intramolecular vibrational redistribution dynamics of 1,1â€²-binaphthyl and 2,2â€²-binaphthyl. Physical Chemistry Chemical Physics, 2012, 14, 840-848.	2.8	6
77	Approaching the Nernst Detection Limit in an Electrolyte-Gated Metal Oxide Transistor. IEEE Electron Device Letters, 2021, 42, 50-53.	3.9	6
78	Hydrogen production based on a photoactivated nanowire-forest. Journal of Materials Chemistry A, 2016, 4, 14988-14995.	10.3	5
79	Heparin-immobilized gold-assisted controlled release of growth factors via electrochemical modulation. RSC Advances, 2016, 6, 88038-88041.	3.6	5
80	Veryâ€Lowâ€Temperature Integrated Complementary Grapheneâ€Barristorâ€Based Inverter for Thinâ€Film Transistor Applications. Annalen Der Physik, 2018, 530, 1800224.	2.4	5
81	Solution-processed metal oxide dielectric films: Progress and outlook. APL Materials, 2021, 9, .	5.1	5
82	<scp>MALDIâ€TOF</scp> Mass Spectrometric Analysis of Chemical Warfare Nerve Agent Simulants. Bulletin of the Korean Chemical Society, 2016, 37, 316-320.	1.9	4
83	Forum on Wearable and Biodegradable Sensors. ACS Applied Bio Materials, 2021, 4, 1-2.	4.6	3
84	ZnO Nanowire Field-Effect Transistors: Ozone-Induced Threshold Voltage Shift and Multiple Nanowire Effects. , 2006, , .		2
85	The Comparative Study on Vaporâ€Polymerization and Pressureâ€dependent Conductance Behavior in Polypyrroleâ€hybridized Membranes. Bulletin of the Korean Chemical Society, 2016, 37, 179-183.	1.9	2
86	Macromolecular Bioelectronics. Macromolecular Bioscience, 2020, 20, e2000329.	4.1	2
87	Transition Metal Dichalcogenides: Atomic Vacancy Control and Elemental Substitution in a Monolayer Molybdenum Disulfide for High Performance Optoelectronic Device Arrays (Adv. Funct.) Tj ETQq1 1 0.784314 rgBT /Overlock	14.9	2
88	Influence of Backbone Curvature on the Organic Electrochemical Transistor Performance of Glycolated Donorâ€“Acceptor Conjugated Polymers. Angewandte Chemie, 2021, 133, 19831-19836.	2.0	2
89	Forum on Wearable and Biodegradable Sensors. ACS Applied Electronic Materials, 2021, 3, 1-2.	4.3	2
90	ZnO Nanowire Field-Effect Transistors: Ozone-Induced Threshold Voltage Shift and Multiple Nanowire Effects. , 0, , .		1

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91	Molecular Electronics: Redox-Induced Asymmetric Electrical Characteristics of Ferrocene-Alkanethiolate Molecular Devices on Rigid and Flexible Substrates (Adv. Funct. Mater.) Tj ETQq1 1 0.784314 rgBT /Overlock	14.9	1
92	71-5: In-Depth Study on Large-Area Bar-Printing and Selective-Area Direct Patterning of Metal Oxide Dielectrics for High-Performance Transistor Application. Digest of Technical Papers SID International Symposium, 2016, 47, 966-969.	0.3	1
93	Large-Area Vertical Silicon Nanocolumn Arrays for Versatile Cell Interfaces. ACS Applied Nano Materials, 2021, 4, 2528-2537.	5.0	1
94	Electron-Transporting Thiophene-Based Semiconductors Exhibiting Very High Field Effect Mobilities. Materials Research Society Symposia Proceedings, 2004, 814, 96.	0.1	0
95	Novel Dielectric Materials for Organic Electronics. Materials Research Society Symposia Proceedings, 2005, 871, 1.	0.1	0
96	Interfacial Phenomena Affecting Charge Transport In Small Molecule Organic Thin-Film Transistors. Materials Research Society Symposia Proceedings, 2006, 965, 1.	0.1	0
97	High-Performance Enhancement-mode ZnO Nanowire Field-Effect Transistors with Organic Nanodielectrics: Effects of Ozone Treatments. , 2006, , .		0
98	Neuromorphic behavior in nanofloating-gate organic field-effect transistors. , 2018, , .		0
99	Organic Bioelectronic Interfaces Based on PEDOT:PSS-Based Crystalline Films, Microfibers, and Fibrillar Hydrogel. , 0, , .		0