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	Highâ€Currentâ€Density Organic Electrochemical Diodes Enabled by Asymmetric Active Layer Design. Advanced Materials, 2022, 34, e2107355.	21.0	8
2	Highâ€Performance <i>n</i>â€Type Organic Electrochemical Transistors Enabled by Aqueous Solution Processing of Amphiphilicityâ€Driven Polymer Assembly. Advanced Functional Materials, 2022, 32, 2111950.	14.9	46
3	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
4	Approaching the Nernst Detection Limit in an Electrolyte-Gated Metal Oxide Transistor. IEEE Electron Device Letters, 2021, 42, 50-53.	3.9	6
5	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
6	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
7	Large-Area Vertical Silicon Nanocolumn Arrays for Versatile Cell Interfaces. ACS Applied Nano Materials, 2021, 4, 2528-2537.	5.0	1
8	Microplastic particles in the aquatic environment: A systematic review. Science of the Total Environment, 2021, 775, 145793.	8.0	101
9	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
10	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
11	Forum on Wearable and Biodegradable Sensors. ACS Applied Bio Materials, 2021, 4, 1-2.	4.6	3
12	Forum on Wearable and Biodegradable Sensors. ACS Applied Electronic Materials, 2021, 3, 1-2.	4.3	2
13	Solution-processed metal oxide dielectric films: Progress and outlook. APL Materials, 2021, 9, .	5.1	5
14	Zirconia nanofibers incorporated polysulfone nanocomposite membrane: Towards overcoming the permeance-selectivity trade-off. Separation and Purification Technology, 2020, 236, 116236.	7.9	21
15	Large-area printed low-voltage organic thin film transistors <i>via</i> minimal-solution bar-coating. Journal of Materials Chemistry C, 2020, 8, 15112-15118.	5.5	14
16	Helicity Modulation Improves the Selectivity of Antimicrobial Peptoids. ACS Infectious Diseases, 2020, 6, 2732-2744.	3.8	25
17	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
18	Designing Polymeric Mixed Conductors and Their Application to Electrochemicalâ€Transistorâ€Based Biosensors. Macromolecular Bioscience, 2020, 20, e2000211.	4.1	35

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19	Macromolecular Bioelectronics. Macromolecular Bioscience, 2020, 20, e2000329.	4.1	2
20	Transition Metal Dichalcogenides: Atomic Vacancy Control and Elemental Substitution in a Monolayer Molybdenum Disulfide for High Performance Optoelectronic Device Arrays (Adv. Funct.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	14.9	2
21	Robust PEDOT:PSS Wetâ€Spun Fibers for Thermoelectric Textiles. Macromolecular Materials and Engineering, 2020, 305, 1900749.	3.6	68
22	All-Polymer Conducting Fibers and 3D Prints via Melt Processing and Templated Polymerization. ACS Applied Materials & Interfaces, 2020, 12, 8713-8721.	8.0	37
23	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
24	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
25	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
26	Human sweat monitoring using polymer-based fiber. Scientific Reports, 2019, 9, 17294.	3.3	17
27	Fabrication of highly permeable thin-film nanocomposite forward osmosis membranes <i>via</i> the design of novel freestanding robust nanofiber substrates. Journal of Materials Chemistry A, 2018, 6, 11700-11713.	10.3	36
28	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
29	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
30	High-performance, polymer-based direct cellular interfaces for electrical stimulation and recording. NPG Asia Materials, 2018, 10, 255-265.	7.9	65
31	Water-insoluble, nanocrystalline, and hydrogel fibrillar scaffolds for biomedical applications. Polymer Journal, 2018, 50, 637-647.	2.7	12
32	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
33	Strong contact coupling of neuronal growth cones with height-controlled vertical silicon nanocolumns. Nano Research, 2018, 11, 2532-2543.	10.4	17
34	Organic electrochemical transistor-based channel dimension-independent single-strand wearable sweat sensors. NPG Asia Materials, 2018, 10, 1086-1095.	7.9	79
35	Veryâ€Lowâ€Temperature Integrated Complementary Grapheneâ€Barristorâ€Based Inverter for Thinâ€Film Transistor Applications. Annalen Der Physik, 2018, 530, 1800224.	2.4	5
36	Influence of PEDOT:PSS crystallinity and composition on electrochemical transistor performance and long-term stability. Nature Communications, 2018, 9, 3858.	12.8	276

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37	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
38	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
39	Chalcogen Bridged Thieno- and Selenopheno[2,3-<i>d</i>:5,4-<i>d</i>â€²]bisthiazole and Their Diketopyrrolopyrrole Based Low-Bandgap Copolymers. Macromolecules, 2018, 51, 6076-6084.	4.8	16
40	Neuromorphic behavior in nanofloating-gate organic field-effect transistors. , 2018, , .		0
41	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
42	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
43	Sol-gel metal oxide dielectrics for all-solution-processed electronics. Materials Science and Engineering Reports, 2017, 114, 1-22.	31.8	180
44	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
45	Mapping cell behavior across a wide range of vertical silicon nanocolumn densities. Nanoscale, 2017, 9, 5517-5527.	5.6	39
46	Multiscale Modulation of Nanocrystalline Cellulose Hydrogel via Nanocarbon Hybridization for 3D Neuronal Bilayer Formation. Small, 2017, 13, 1700331.	10.0	24
47	An Essential Role for TAGLN2 in Phagocytosis of Lipopolysaccharide-activated Macrophages. Scientific Reports, 2017, 7, 8731.	3.3	25
48	Ultralow-Temperature Solution-Processed Aluminum Oxide Dielectrics via Local Structure Control of Nanoclusters. ACS Applied Materials & Interfaces, 2017, 9, 35114-35124.	8.0	44
49	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
50	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
51	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
52	<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
53	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
54	Controlled Charge Trapping and Retention in Large-Area Monodisperse Protein Metal-Nanoparticle Conjugates. ACS Applied Materials & Interfaces, 2016, 8, 11898-11903.	8.0	24

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55	Vertical nanocolumn-assisted pluripotent stem cell colony formation with minimal cell-penetration. Nanoscale, 2016, 8, 18087-18097.	5.6	9
56	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
57	Hydrogen production based on a photoactivated nanowire-forest. Journal of Materials Chemistry A, 2016, 4, 14988-14995.	10.3	5
58	Heparin-immobilized gold-assisted controlled release of growth factors via electrochemical modulation. RSC Advances, 2016, 6, 88038-88041.	3.6	5
59	Synaptic organic transistors with a vacuum-deposited charge-trapping nanosheet. Scientific Reports, 2016, 6, 33355.	3.3	37
60	Polypyrrole multilayer-laminated cellulose for large-scale repeatable mercury ion removal. Journal of Materials Chemistry A, 2016, 4, 12425-12433.	10.3	50
61	Axon-First Neuritogenesis on Vertical Nanowires. Nano Letters, 2016, 16, 675-680.	9.1	37
62	Sub-0.5 V Highly Stable Aqueous Salt Gated Metal Oxide Electronics. Scientific Reports, 2015, 5, 13088.	3.3	51
63	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
64	NeuO: a Fluorescent Chemical Probe for Live Neuron Labeling. Angewandte Chemie, 2015, 127, 2472-2476.	2.0	12
65	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
66	Polyelectrolyte multilayer-assisted fabrication of non-periodic silicon nanocolumn substrates for cellular interface applications. Nanoscale, 2015, 7, 14627-14635.	5.6	15
67	Direct patterning of solâ€“gel metal oxide semiconductor and dielectric films via selective surface wetting. RSC Advances, 2015, 5, 38125-38129.	3.6	40
68	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
69	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
70	Molecular Electronics: Redox-Induced Asymmetric Electrical Characteristics of Ferrocene-Alkanethiolate Molecular Devices on Rigid and Flexible Substrates (Adv. Funct. Mater.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 1	14.9	
71	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
72	Transparent Conducting Films Based on Reduced Graphene Oxide Multilayers for Biocompatible Neuronal Interfaces. Journal of Biomedical Nanotechnology, 2013, 9, 403-408.	1.1	14

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73	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
74	Flexible metal-oxide devices made by room-temperature photochemical activation of solâ€“gel films. Nature, 2012, 489, 128-132.	27.8	975
75	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
76	Vertical nanowire electrode arrays as a scalable platform for intracellular interfacing to neuronal circuits. Nature Nanotechnology, 2012, 7, 180-184.	31.5	532
77	Flexible molecular-scale electronic devices. Nature Nanotechnology, 2012, 7, 438-442.	31.5	165
78	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
79	Proton radiation hardness of single-nanowire transistors using robust organic gate nanodielectrics. Applied Physics Letters, 2006, 89, 073510.	3.3	22
80	ZnO Nanowire Field-Effect Transistors: Ozone-Induced Threshold Voltage Shift and Multiple Nanowire Effects. , 2006, , .		2
81	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
82	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
83	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
84	High-performance transparent inorganicâ€“organic hybrid thin-film n-type transistors. Nature Materials, 2006, 5, 893-900.	27.5	330
85	Interfacial Phenomena Affecting Charge Transport In Small Molecule Organic Thin-Film Transistors. Materials Research Society Symposia Proceedings, 2006, 965, 1.	0.1	0
86	High-Performance Enhancement-mode ZnO Nanowire Field-Effect Transistors with Organic Nanodielectrics: Effects of Ozone Treatments. , 2006, , .		0
87	Organic field-effect transistors based on a crosslinkable polymer blend as the semiconducting layer. Applied Physics Letters, 2005, 87, 183501.	3.3	23
88	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
89	Novel Dielectric Materials for Organic Electronics. Materials Research Society Symposia Proceedings, 2005, 871, 1.	0.1	0
90	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

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91	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
92	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
93	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
94	Electron-Transporting Thiophene-Based Semiconductors Exhibiting Very High Field Effect Mobilities. Materials Research Society Symposia Proceedings, 2004, 814, 96.	0.1	0
95	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
96	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
97	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
98	ZnO Nanowire Field-Effect Transistors: Ozone-Induced Threshold Voltage Shift and Multiple Nanowire Effects. , 0, , .		1
99	Organic Bioelectronic Interfaces Based on PEDOT:PSS-Based Crystalline Films, Microfibers, and Fibrillar Hydrogel. , 0, , .		0