A non-volatile organic electrochemical device as a low-v neuromorphic computing

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Citation Report

#	Article	IF	CITATIONS
1	Battery-like artificial synapses. Nature Materials, 2017, 16, 396-397.	13.3	35
2	A Synaptic Transistor based on Quasiâ€2D Molybdenum Oxide. Advanced Materials, 2017, 29, 1700906.	11.1	304
3	Electrochemical strain microscopy probes morphology-induced variations in ion uptake and performance in organic electrochemicalÂtransistors. Nature Materials, 2017, 16, 737-742.	13.3	143
4	A novel neurophysiological based navigation system. Biologically Inspired Cognitive Architectures, 2017, 22, 67-81.	0.9	1
5	Flexible three-dimensional artificial synapse networks with correlated learning and trainable memory capability. Nature Communications, 2017, 8, 752.	5.8	245
6	Deposition Dependent Ion Transport in Doped Conjugated Polymer Films: Insights for Creating Highâ€Performance Electrochemical Devices. Advanced Materials Interfaces, 2017, 4, 1700873.	1.9	19
7	Synaptic Computation Demonstrated in a Two-Synapse Network Based on Top-Gate Electric-Double-Layer Synaptic Transistors. IEEE Electron Device Letters, 2017, 38, 1496-1499.	2.2	15
8	Organic memristors come of age. Nature Materials, 2017, 16, 1170-1172.	13.3	41
9	Artificial Synapses with Short- and Long-Term Memory for Spiking Neural Networks Based on Renewable Materials. ACS Nano, 2017, 11, 8962-8969.	7.3	302
10	Supramolecular Self-Assembly in a Sub-micrometer Electrodic Cavity: Fabrication of Heat-Reversible ï€-Gel Memristor. Journal of the American Chemical Society, 2017, 139, 14406-14411.	6.6	32
11	A light-stimulated synaptic device based on graphene hybrid phototransistor. 2D Materials, 2017, 4, 035022.	2.0	186
12	Chemical potential–electric double layer coupling in conjugated polymer–polyelectrolyte blends. Science Advances, 2017, 3, eaao3659.	4.7	112
13	Extremely Low Operating Current Resistive Memory Based on Exfoliated 2D Perovskite Single Crystals for Neuromorphic Computing. ACS Nano, 2017, 11, 12247-12256.	7.3	286
14	Who made the first glass?. Nature Materials, 2017, 16, 1172-1172.	13.3	Ο
15	Humidity-Dependent Synaptic Plasticity for Proton Gated Oxide Synaptic Transistor. IEEE Electron Device Letters, 2017, 38, 1248-1251.	2.2	23
16	Gate-tunable memristors from monolayer MoS <inf>2</inf> ., 2017, , .		7
17	Designing an analog crossbar based neuromorphic accelerator. , 2017, , .		4
18	Spatio-temporal learning with arrays of analog nanosynapses. , 2017, , .		12

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#	Article	IF	CITATIONS
19	Improved Deep Neural Network Hardware-Accelerators Based on Non-Volatile-Memory: The Local Gains Technique. , 2017, , .		10
20	Computational Foundations of Natural Intelligence. Frontiers in Computational Neuroscience, 2017, 11, 112.	1.2	36
21	Multi-bit memories fabricated through mechanical and plasma induced deformation of layered semiconductors. , 2017, , .		0
22	Learning with Deep Photonic Neural Networks. , 2017, , .		1
23	Biomimetic approaches toward smart bio-hybrid systems. Nano Research, 2018, 11, 3009-3030.	5.8	26
24	Diffusion-Controlled Faradaic Charge Storage in High-Performance Solid Electrolyte-Gated Zinc Oxide Thin-Film Transistors. ACS Applied Materials & Interfaces, 2018, 10, 9782-9791.	4.0	51
25	Oxygen vacancy migration/diffusion induced synaptic plasticity in a single titanate nanobelt. Nanoscale, 2018, 10, 6069-6079.	2.8	30
26	Macrocyclic triphenylamine-based push–pull type polymer memristive material: synthesis and characterization. Journal of Materials Chemistry C, 2018, 6, 4023-4029.	2.7	18
27	Short-Term and Long-Term Plasticity Mimicked in Low-Voltage Ag/GeSe/TiN Electronic Synapse. IEEE Electron Device Letters, 2018, 39, 492-495.	2.2	54
28	Dynamic and Tunable Threshold Voltage in Organic Electrochemical Transistors. Advanced Materials, 2018, 30, e1706757.	11.1	53
29	Optimized pulsed write schemes improve linearity and write speed for low-power organic neuromorphic devices. Journal Physics D: Applied Physics, 2018, 51, 224002.	1.3	53
30	Nonvolatile Memory Materials for Neuromorphic Intelligent Machines. Advanced Materials, 2018, 30, e1704729.	11.1	187
31	Synapse‣ike Organic Thin Film Memristors. Advanced Functional Materials, 2018, 28, 1800854.	7.8	152
32	Chitosan-Based Polysaccharide-Gated Flexible Indium Tin Oxide Synaptic Transistor with Learning Abilities. ACS Applied Materials & Interfaces, 2018, 10, 16881-16886.	4.0	120
33	Ion Gated Synaptic Transistors Based on 2D van der Waals Crystals with Tunable Diffusive Dynamics. Advanced Materials, 2018, 30, e1800195.	11.1	368
34	Synaptic Computation Enabled by Joule Heating of Single-Layered Semiconductors for Sound Localization. Nano Letters, 2018, 18, 3229-3234.	4.5	134
35	Organic memristive element with Chitosan as solid polyelectrolyte. Microelectronic Engineering, 2018, 193, 65-70.	1.1	9
36	Emulating homeoplasticity phenomena with organic electrochemical devices. MRS Communications, 2018, 8, 493-497.	0.8	20

#	Article	IF	CITATIONS
37	Ionic Liquid Designed for PEDOT:PSS Conductivity Enhancement. Journal of the American Chemical Society, 2018, 140, 5375-5384.	6.6	112
38	From biomaterial-based data storage to bio-inspired artificial synapse. Materials Today, 2018, 21, 537-552.	8.3	218
39	GXNOR-Net: Training deep neural networks with ternary weights and activations without full-precision memory under a unified discretization framework. Neural Networks, 2018, 100, 49-58.	3.3	105
40	Organic electrochemical transistors. Nature Reviews Materials, 2018, 3, .	23.3	1,143
41	An all-solid-state biocompatible ion-to-electron transducer for bioelectronics. Materials Horizons, 2018, 5, 256-263.	6.4	81
42	Fully memristive neural networks for pattern classification with unsupervised learning. Nature Electronics, 2018, 1, 137-145.	13.1	787
43	SiGe epitaxial memory for neuromorphic computing with reproducible high performance based on engineered dislocations. Nature Materials, 2018, 17, 335-340.	13.3	518
44	Highâ€Performance Vertical Organic Electrochemical Transistors. Advanced Materials, 2018, 30, 1705031.	11.1	99
45	Multi-valued and Fuzzy Logic Realization using TaOx Memristive Devices. Scientific Reports, 2018, 8, 8.	1.6	135
46	Complementary Logic Circuits Based on Highâ€Performance nâ€īype Organic Electrochemical Transistors. Advanced Materials, 2018, 30, 1704916.	11.1	206
47	Synergistic Gating of Electroâ€lonoâ€Photoactive 2D Chalcogenide Neuristors: Coexistence of Hebbian and Homeostatic Synaptic Metaplasticity. Advanced Materials, 2018, 30, e1800220.	11.1	261
49	Memristive Ion Channel-Doped Biomembranes as Synaptic Mimics. ACS Nano, 2018, 12, 4702-4711.	7.3	107
50	Interfacing Cells with Vertical Nanoscale Devices: Applications and Characterization. Annual Review of Analytical Chemistry, 2018, 11, 101-126.	2.8	66
51	Ultrasensitive artificial synapse based on conjugated polyelectrolyte. Nano Energy, 2018, 48, 575-581.	8.2	85
52	Spike-timing-dependent plasticity of polyaniline-based memristive element. Microelectronic Engineering, 2018, 185-186, 43-47.	1.1	34
53	High-Capacity Redox Polymer Electrodes: Applications in Molecular and Cellular Processing. SLAS Technology, 2018, 23, 374-386.	1.0	2
54	Roadmap on semiconductor–cell biointerfaces. Physical Biology, 2018, 15, 031002.	0.8	45
55	A facile approach for reducing the working voltage of Au/TiO ₂ /Au nanostructured memristors by enhancing the local electric field. Nanotechnology, 2018, 29, 015205.	1.3	18

#	Article	IF	CITATIONS
56	A bio-inspired physically transient/biodegradable synapse for security neuromorphic computing based on memristors. Nanoscale, 2018, 10, 20089-20095.	2.8	82
57	ECRAM as Scalable Synaptic Cell for High-Speed, Low-Power Neuromorphic Computing. , 2018, , .		94
58	Analog high resistance bilayer RRAM device for hardware acceleration of neuromorphic computation. Journal of Applied Physics, 2018, 124, .	1.1	12
59	Reduction of specific contact resistance between the conducting polymer PEDOT:PSS and a metal electrode by addition of a second solvent during film formation and a post-surface treatment. Synthetic Metals, 2018, 246, 289-296.	2.1	14
60	Stretchable organic optoelectronic sensorimotor synapse. Science Advances, 2018, 4, eaat7387.	4.7	359
61	Recent Advances in Memristive Materials for Artificial Synapses. Advanced Materials Technologies, 2018, 3, 1800457.	3.0	161
62	Artificial optic-neural synapse for colored and color-mixed pattern recognition. Nature Communications, 2018, 9, 5106.	5.8	462
63	Challenges in materials and devices for resistive-switching-based neuromorphic computing. Journal of Applied Physics, 2018, 124, .	1.1	155
64	Perspective: Uniform switching of artificial synapses for large-scale neuromorphic arrays. APL Materials, 2018, 6, .	2.2	26
65	Perspective: Organic electronic materials and devices for neuromorphic engineering. Journal of Applied Physics, 2018, 124, 151902.	1.1	41
66	Optoelectronic Synapse Based on IGZOâ€Alkylated Graphene Oxide Hybrid Structure. Advanced Functional Materials, 2018, 28, 1804397.	7.8	280
67	Activity dependent post-tetanic potentiation of starch-based biopolymer electrolyte gated oxide synaptic transistors. Journal Physics D: Applied Physics, 2018, 51, 495401.	1.3	7
68	Bipolar to unipolar mode transition and imitation of metaplasticity in oxide based memristors with enhanced ionic conductivity. Journal of Applied Physics, 2018, 124, .	1.1	19
69	A Ferroelectric/Electrochemical Modulated Organic Synapse for Ultraflexible, Artificial Visualâ€Perception System. Advanced Materials, 2018, 30, e1803961.	11.1	292
70	Organic Electrochemical Transistors Based on Room Temperature Ionic Liquids: Performance and Stability. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800631.	0.8	19
71	Unraveling the Microstructure of Molecularly Doped Poly(3-hexylthiophene) by Thermally Induced Dedoping. Journal of Physical Chemistry C, 2018, 122, 25893-25899.	1.5	35
72	Wood-Derived Nanopaper Dielectrics for Organic Synaptic Transistors. ACS Applied Materials & Interfaces, 2018, 10, 39983-39991.	4.0	86
73	Transferable and Flexible Artificial Memristive Synapse Based on WO <i>_x</i> Schottky Junction on Arbitrary Substrates. Advanced Electronic Materials, 2018, 4, 1800373.	2.6	58

#	Article	IF	CITATIONS
74	Deep-ultraviolet-triggered neuromorphic functions in In-Zn-O phototransistors. Applied Physics Letters, 2018, 113, .	1.5	84
75	Electroluminescent synaptic devices with logic functions. Nano Energy, 2018, 54, 383-389.	8.2	80
76	A Flexible Artificial Synapse for Neuromorphic System. , 2018, , .		2
77	Device physics of organic electrochemical transistors. Organic Electronics, 2018, 63, 398-414.	1.4	213
78	Allâ€Solidâ€State Synaptic Transistor with Ultralow Conductance for Neuromorphic Computing. Advanced Functional Materials, 2018, 28, 1804170.	7.8	335
79	The Energy Consumed by Electrochemical Molecular Machines as Self‣ensor of the Reaction Conditions: Origin of Sensing Nervous Pulses and Asymmetry in Biological Functions. ChemElectroChem, 2018, 5, 3335-3347.	1.7	9
80	An Organic Flexible Artificial Bio-Synapses with Long-Term Plasticity for Neuromorphic Computing. Micromachines, 2018, 9, 239.	1.4	25
81	All-Oxide-Based Highly Transparent Photonic Synapse for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2018, 10, 34370-34376.	4.0	168
82	n-Type organic electrochemical transistors: materials and challenges. Journal of Materials Chemistry C, 2018, 6, 11778-11784.	2.7	122
83	Flexible memristive devices based on polyimide:mica nanosheet nanocomposites with an embedded PEDOT:PSS layer. Scientific Reports, 2018, 8, 12275.	1.6	18
84	A Centimeterâ€Scale Inorganic Nanoparticle Superlattice Monolayer with Nonâ€Closeâ€Packing and its High Performance in Memory Devices. Advanced Materials, 2018, 30, e1800595.	11.1	80
85	Neuromorphic Computing with Memristor Crossbar. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700875.	0.8	60
86	Diverse spike-timing-dependent plasticity based on multilevel HfO x memristor for neuromorphic computing. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	1.1	28
87	A bioinspired flexible organic artificial afferent nerve. Science, 2018, 360, 998-1003.	6.0	982
88	A Universal Platform for Fabricating Organic Electrochemical Devices. Advanced Electronic Materials, 2018, 4, 1800090.	2.6	43
89	Artificial Synapses Emulated by an Electrolyteâ€Gated Tungstenâ€Oxide Transistor. Advanced Materials, 2018, 30, e1801548.	11.1	293
90	Electrochemical and Chemical Insertion for Energy Transformation and Switching. Annual Review of Materials Research, 2018, 48, 137-165.	4.3	36
91	Neuromorphic Timeâ€Dependent Pattern Classification with Organic Electrochemical Transistor Arrays. Advanced Electronic Materials, 2018, 4, 1800166.	2.6	42

#	Article	IF	CITATIONS
92	From natural biomaterials to environment-friendly and sustainable nonvolatile memory device. Chemical Physics, 2018, 513, 7-12.	0.9	23
93	Artificial electronic synapse characteristics of a Ta/Ta2O5-x/Al2O3/InGaZnO4 memristor device on flexible stainless steel substrate. Applied Physics Letters, 2018, 113, .	1.5	51
94	Organic synaptic devices for neuromorphic systems. Journal Physics D: Applied Physics, 2018, 51, 314004.	1.3	89
95	Photonic Synapses Based on Inorganic Perovskite Quantum Dots for Neuromorphic Computing. Advanced Materials, 2018, 30, e1802883.	11.1	437
96	Lowâ€Power, Electrochemically Tunable Graphene Synapses for Neuromorphic Computing. Advanced Materials, 2018, 30, e1802353.	11.1	209
97	Tunable flexible artificial synapses: a new path toward a wearable electronic system. Npj Flexible Electronics, 2018, 2, .	5.1	32
98	Flexible Neuromorphic Architectures Based on Self-Supported Multiterminal Organic Transistors. ACS Applied Materials & Interfaces, 2018, 10, 26443-26450.	4.0	99
99	Quantum materials for brain sciences and artificial intelligence. MRS Bulletin, 2018, 43, 534-540.	1.7	10
100	Synaptic Barristor Based on Phaseâ€Engineered 2D Heterostructures. Advanced Materials, 2018, 30, e1801447.	11.1	134
101	Neuromorphic computing with multi-memristive synapses. Nature Communications, 2018, 9, 2514.	5.8	566
102	Optimized Near-Zero Quantization Method for Flexible Memristor Based Neural Network. IEEE Access, 2018, 6, 29320-29331.	2.6	7
103	Organic electronics for neuromorphic computing. Nature Electronics, 2018, 1, 386-397.	13.1	672
104	Optically modulated electric synapses realized with memristors based on ZnO nanorods. Applied Physics Letters, 2018, 113, .	1.5	35
105	Capacitive neural network with neuro-transistors. Nature Communications, 2018, 9, 3208.	5.8	199
106	Electronic synapses made of layered two-dimensional materials. Nature Electronics, 2018, 1, 458-465.	13.1	459
107	Energy and Area Efficient Tunnel FET-based Spiking Neural Networks. , 2018, , .		3
108	Handwritten-Digit Recognition by Hybrid Convolutional Neural Network based on HfO2 Memristive Spiking-Neuron. Scientific Reports, 2018, 8, 12546.	1.6	34
109	Emerging Neuromorphic Computing Paradigms Exploring Magnetic Skyrmions. , 2018, , .		11

#	Article	IF	CITATIONS
110	A wide-range operating synaptic device based on organic ferroelectricity with low energy consumption. RSC Advances, 2018, 8, 26549-26553.	1.7	26
111	Organic memristive devices for perceptron applications. Journal Physics D: Applied Physics, 2018, 51, 284002.	1.3	22
112	Conjugated Polymers in Bioelectronics. Accounts of Chemical Research, 2018, 51, 1368-1376.	7.6	361
113	Programmable Synaptic Metaplasticity and below Femtojoule Spiking Energy Realized in Graphene-Based Neuromorphic Memristor. ACS Applied Materials & Interfaces, 2018, 10, 20237-20243.	4.0	71
114	Light-Stimulated Synaptic Devices Utilizing Interfacial Effect of Organic Field-Effect Transistors. ACS Applied Materials & Interfaces, 2018, 10, 21472-21480.	4.0	224
115	Equivalent-accuracy accelerated neural-network training using analogue memory. Nature, 2018, 558, 60-67.	13.7	755
116	Recent progress in analog memory-based accelerators for deep learning. Journal Physics D: Applied Physics, 2018, 51, 283001.	1.3	173
117	Implementation of multilayer perceptron network with highly uniform passive memristive crossbar circuits. Nature Communications, 2018, 9, 2331.	5.8	281
118	Modulating 3D memristor synapse by analog spiking pulses for bioinspired neuromorphic computing. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	2.0	11
119	Efficient and self-adaptive in-situ learning in multilayer memristor neural networks. Nature Communications, 2018, 9, 2385.	5.8	575
120	Recent advances on flexible electrodes for Na-ion batteries and Li–S batteries. Journal of Energy Chemistry, 2019, 32, 15-44.	7.1	61
121	Bio-inspired protonic memristor devices based on metal complexes with proton-coupled electron transfer. Faraday Discussions, 2019, 213, 99-113.	1.6	13
122	An electro-photo-sensitive synaptic transistor for edge neuromorphic visual systems. Nanoscale, 2019, 11, 17590-17599.	2.8	71
123	Reversible uptake and release of sodium ions in layered SnS ₂ -reduced graphene oxide composites for neuromorphic devices. Nanoscale, 2019, 11, 15382-15388.	2.8	33
124	Resistance switching characteristics and mechanisms of MXene/SiO2 structure-based memristor. Applied Physics Letters, 2019, 115, .	1.5	39
125	Modeling the Metal–Insulator Phase Transition in Li _x CoO ₂ for Energy and Information Storage. Advanced Functional Materials, 2019, 29, 1902821.	7.8	40
126	A Transparent Photonic Artificial Visual Cortex. Advanced Materials, 2019, 31, e1903095.	11.1	53
127	Al hardware acceleration with analog memory: Microarchitectures for low energy at high speed. IBM Journal of Research and Development, 2019, 63, 8:1-8:14.	3.2	39

#	Article	IF	CITATIONS
128	Controllable digital resistive switching for artificial synapses and pavlovian learning algorithm. Nanoscale, 2019, 11, 15596-15604.	2.8	43
129	Dynamically Reconfigurable Shortâ€Term Synapse with Millivolt Stimulus Resolution Based on Organic Electrochemical Transistors. Advanced Materials Technologies, 2019, 4, 1900471.	3.0	57
130	Simultaneous implementation of resistive switching and rectifying effects in a metal-organic framework with switched hydrogen bond pathway. Science Advances, 2019, 5, eaaw4515.	4.7	90
131	Nanoimaging of Organic Charge Retention Effects: Implications for Nonvolatile Memory, Neuromorphic Computing, and High Dielectric Breakdown Devices. ACS Applied Nano Materials, 2019, 2, 4711-4716.	2.4	4
132	Influence of a Novel 2D Material MXene on the Behavior of Memristor and Its Crossbar Array. , 2019, , .		1
133	Oxide Neuromorphic Transistors Gated by Polyvinyl Alcohol Solid Electrolytes with Ultralow Power Consumption. ACS Applied Materials & amp; Interfaces, 2019, 11, 28352-28358.	4.0	46
134	Fullerene Active Layers for n-Type Organic Electrochemical Transistors. ACS Applied Materials & Interfaces, 2019, 11, 28138-28144.	4.0	70
135	Ion buffering and interface charge enable high performance electronics with organic electrochemical transistors. Nature Communications, 2019, 10, 3044.	5.8	68
136	Efficient two-terminal artificial synapse based on a network of functionalized conducting polymer nanowires. Journal of Materials Chemistry C, 2019, 7, 9933-9938.	2.7	32
137	Vertically Aligned WS ₂ Layers for Highâ€Performing Memristors and Artificial Synapses. Advanced Electronic Materials, 2019, 5, 1900467.	2.6	68
138	Synaptic element for neuromorphic computing using a magnetic domain wall device with synthetic pinning sites. Journal Physics D: Applied Physics, 2019, 52, 445001.	1.3	21
139	Towards organic neuromorphic devices for adaptive sensing and novel computing paradigms in bioelectronics. Journal of Materials Chemistry C, 2019, 7, 12754-12760.	2.7	56
140	Synaptic silicon-nanocrystal phototransistors for neuromorphic computing. Nano Energy, 2019, 63, 103859.	8.2	107
141	Emerging research directions for n-type conjugated polymers. Journal of Materials Chemistry C, 2019, 7, 12809-12821.	2.7	59
142	Electronic Skin: Recent Progress and Future Prospects for Skinâ€Attachable Devices for Health Monitoring, Robotics, and Prosthetics. Advanced Materials, 2019, 31, e1904765.	11.1	936
143	Electronic Tuning of Mixed Quinoidalâ€Aromatic Conjugated Polyelectrolytes: Direct Ionic Substitution on Polymer Mainâ€Chains. Angewandte Chemie - International Edition, 2019, 58, 17978-17985.	7.2	32
144	Solar-stimulated optoelectronic synapse based on organic heterojunction with linearly potentiated synaptic weight for neuromorphic computing. Nano Energy, 2019, 66, 104095.	8.2	100
145	Dual-Gated MoS ₂ Neuristor for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2019, 11, 41482-41489.	4.0	78

#	Article	IF	CITATIONS
146	Stretchable elastic synaptic transistors for neurologically integrated soft engineering systems. Science Advances, 2019, 5, eaax4961.	4.7	191
147	Low Power, CMOS-MoS2 Memtransistor based Neuromorphic Hybrid Architecture for Wake-Up Systems. Scientific Reports, 2019, 9, 15604.	1.6	16
148	Electrochemical memristive devices based on submonolayer metal deposition. APL Materials, 2019, 7, 101121.	2.2	8
149	Energy-Efficient Artificial Synapses Based on Oxide Tunnel Junctions. ACS Applied Materials & Interfaces, 2019, 11, 43473-43479.	4.0	21
150	Environmentally Robust Memristor Enabled by Leadâ€Free Double Perovskite for Highâ€Performance Information Storage. Small, 2019, 15, e1905731.	5.2	123
151	Environmentâ€Adaptable Artificial Visual Perception Behaviors Using a Lightâ€Adjustable Optoelectronic Neuromorphic Device Array. Advanced Materials, 2019, 31, e1906433.	11.1	207
153	Structural Engineering of Li-Based Electronic Synapse for High Reliability. IEEE Electron Device Letters, 2019, 40, 1992-1995.	2.2	28
154	The Rise of Bioinspired Ionotronics. Advanced Intelligent Systems, 2019, 1, 1900073.	3.3	43
155	Carboxylic Acid Functionalization Yields Solvent-Resistant Organic Electrochemical Transistors. , 2019, 1, 599-605.		35
156	Smallâ€Moleculeâ€Based Organic Fieldâ€Effect Transistor for Nonvolatile Memory and Artificial Synapse. Advanced Functional Materials, 2019, 29, 1904602.	7.8	192
157	Dualâ€Phase Allâ€Inorganic Cesium Halide Perovskites for Conductingâ€Bridge Memoryâ€Based Artificial Synapses. Advanced Functional Materials, 2019, 29, 1906686.	7.8	79
158	Bridging Biological and Artificial Neural Networks with Emerging Neuromorphic Devices: Fundamentals, Progress, and Challenges. Advanced Materials, 2019, 31, e1902761.	11.1	418
159	Synaptic response in organic electrochemical transistor gated by a graphene electrode. Flexible and Printed Electronics, 2019, 4, 044002.	1.5	18
160	Resistance Switching Statistics and Mechanisms of Pt Dispersed Silicon Oxide-Based Memristors. Micromachines, 2019, 10, 369.	1.4	7
161	Gelatin-hydrogel based organic synaptic transistor. Organic Electronics, 2019, 75, 105409.	1.4	36
162	Time‶ailoring van der Waals Heterostructures for Human Memory System Programming. Advanced Science, 2019, 6, 1901072.	5.6	52
163	Versatile neuromorphic electronics by modulating synaptic decay of single organic synaptic transistor: From artificial neural networks to neuro-prosthetics. Nano Energy, 2019, 65, 104035.	8.2	115
164	Memristive Synaptic Circuits for Deep Convolutional Neural Networks. , 2019, , .		1

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#	Article	IF	CITATIONS
165	The Mechanism of Dedoping PEDOT:PSS by Aliphatic Polyamines. Journal of Physical Chemistry C, 2019, 123, 24328-24337.	1.5	37
166	Multi-spectral gate-triggered heterogeneous photonic neuro-transistors for power-efficient brain-inspired neuromorphic computing. Nano Energy, 2019, 66, 104097.	8.2	48
167	Nanosystems, Edge Computing, and the Next Generation Computing Systems. Sensors, 2019, 19, 4048.	2.1	32
168	Sparking to life. Nature Materials, 2019, 18, 1156-1157.	13.3	1
169	Low-Voltage, CMOS-Free Synaptic Memory Based on Li <i>_X</i> TiO ₂ Redox Transistors. ACS Applied Materials & Interfaces, 2019, 11, 38982-38992.	4.0	78
170	Emerging synaptic devices: from two-terminal memristors to multiterminal neuromorphic transistors. Materials Today Nano, 2019, 8, 100059.	2.3	56
171	Memristive Electronic Synapses Made by Anodic Oxidation. Chemistry of Materials, 2019, 31, 8394-8401.	3.2	26
172	Artificial synapses emulated through a light mediated organic–inorganic hybrid transistor. Journal of Materials Chemistry C, 2019, 7, 48-59.	2.7	70
173	A bio-inspired electronic synapse using solution processable organic small molecule. Journal of Materials Chemistry C, 2019, 7, 1491-1501.	2.7	59
174	Synaptic plasticity, metaplasticity and memory effects in hybrid organic–inorganic bismuth-based materials. Nanoscale, 2019, 11, 1080-1090.	2.8	36
175	Ferroelectric Analog Synaptic Transistors. Nano Letters, 2019, 19, 2044-2050.	4.5	381
176	An Evolvable Organic Electrochemical Transistor for Neuromorphic Applications. Advanced Science, 2019, 6, 1801339.	5.6	138
177	Two-Terminal Structured Synaptic Device Using Ionic Electrochemical Reaction Mechanism for Neuromorphic System. IEEE Electron Device Letters, 2019, 40, 546-549.	2.2	35
178	Tunable synaptic behavior realized in C3N composite based memristor. Nano Energy, 2019, 58, 293-303.	8.2	123
179	Core-shell copper nanowire-TiO2 nanotube arrays with excellent bipolar resistive switching properties. Electrochimica Acta, 2019, 316, 133-142.	2.6	28
180	Solar-blind SnO2 nanowire photo-synapses for associative learning and coincidence detection. Nano Energy, 2019, 62, 393-400.	8.2	100
181	Self-Doping Memristors with Equivalently Synaptic Ion Dynamics for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2019, 11, 24230-24240.	4.0	35
182	Reliability Challenges with Materials for Analog Computing. , 2019, , .		14

#	Article	IF	CITATIONS
183	Hierarchical Uniform Supramolecular Conjugated Spherulites with Suppression of Defect Emission. IScience, 2019, 16, 399-409.	1.9	30
184	Transparent and flexible photonic artificial synapse with piezo-phototronic modulator: Versatile memory capability and higher order learning algorithm. Nano Energy, 2019, 63, 103843.	8.2	64
185	Optoelectronic neuromorphic thin-film transistors capable of selective attention and with ultra-low power dissipation. Nano Energy, 2019, 62, 772-780.	8.2	103
186	Nanochannel-Based Transport in an Interfacial Memristor Can Emulate the Analog Weight Modulation of Synapses. Nano Letters, 2019, 19, 4279-4286.	4.5	73
187	Developing near-infrared quantum-dot light-emitting diodes to mimic synaptic plasticity. Science China Materials, 2019, 62, 1470-1478.	3.5	31
188	A high-performance MoS ₂ synaptic device with floating gate engineering for neuromorphic computing. 2D Materials, 2019, 6, 045008.	2.0	72
189	Fully transparent, flexible and waterproof synapses with pattern recognition in organic environments. Nanoscale Horizons, 2019, 4, 1293-1301.	4.1	40
190	Solutionâ€Processed Polymer Thinâ€Film Memristors with an Electrochromic Feature and Frequencyâ€Dependent Synaptic Plasticity. Advanced Intelligent Systems, 2019, 1, 1900022.	3.3	14
191	Contrasting Advantages of Learning With Random Weights and Backpropagation in Non-Volatile Memory Neural Networks. IEEE Access, 2019, 7, 73938-73953.	2.6	8
192	Electrolyteâ€Gated Synaptic Transistor with Oxygen Ions. Advanced Functional Materials, 2019, 29, 1902702.	7.8	103
193	Photoelectric Synaptic Plasticity Realized by 2D Perovskite. Advanced Functional Materials, 2019, 29, 1902538.	7.8	132
194	Yttria-stabilized zirconia cross-point memristive devices for neuromorphic applications. Microelectronic Engineering, 2019, 215, 110988.	1.1	61
195	Analysis of Hot Carrier Injection According to Gate Length. Journal of Nanoscience and Nanotechnology, 2019, 19, 6746-6749.	0.9	1
196	Hybrid CMOS-Memristive Convolutional computation for on-chip learning. Neurocomputing, 2019, 355, 48-56.	3.5	15
197	A Robust Nonvolatile Resistive Memory Device Based on a Freestanding Ultrathin 2D Imine Polymer Film. Advanced Materials, 2019, 31, e1902264.	11.1	117
198	Artificial Synapses Based on Multiterminal Memtransistors for Neuromorphic Application. Advanced Functional Materials, 2019, 29, 1901106.	7.8	192
199	Recent Progress in Synaptic Devices Paving the Way toward an Artificial Cogniâ€Retina for Bionic and Machine Vision. Advanced Intelligent Systems, 2019, 1, 1900003.	3.3	40
200	Functional Connectivity of Organic Neuromorphic Devices by Global Voltage Oscillations. Advanced Intelligent Systems, 2019, 1, 1900013.	3.3	24

ARTICLE

IF CITATIONS

0

201 Organic electronic memory devices. , 2019, , 843-874.

202	Liquid-based memory and artificial synapse. Nanoscale, 2019, 11, 9726-9732.	2.8	23
203	In Situ Hard X-ray Photoelectron Spectroscopy of Space Charge Layer in a ZnO-Based All-Solid-State Electric Double-Layer Transistor. Journal of Physical Chemistry C, 2019, 123, 10487-10493.	1.5	13
204	Analytic analysis for effects of input initial phase on input-output dynamics of memristor. IEICE Electronics Express, 2019, 16, 20190154-20190154.	0.3	0
205	Parallel programming of an ionic floating-gate memory array for scalable neuromorphic computing. Science, 2019, 364, 570-574.	6.0	484
206	Fully Printed All-Solid-State Organic Flexible Artificial Synapse for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2019, 11, 16749-16757.	4.0	70
207	Organic Synapses for Neuromorphic Electronics: From Brain-Inspired Computing to Sensorimotor Nervetronics. Accounts of Chemical Research, 2019, 52, 964-974.	7.6	213
208	Memristive crossbar arrays for brain-inspired computing. Nature Materials, 2019, 18, 309-323.	13.3	1,058
209	Atomic Layer Deposited Hf0.5Zr0.5O2-based Flexible Memristor with Short/Long-Term Synaptic Plasticity. Nanoscale Research Letters, 2019, 14, 102.	3.1	38
210	EGOFET Gated by a Molecular Electronic Switch: A Singleâ€Đevice Memory Cell. Advanced Electronic Materials, 2019, 5, 1800875.	2.6	7
211	Vertical, electrolyte-gated organic transistors show continuous operation in the MA cmâ^'2 regime and artificial synaptic behaviour. Nature Nanotechnology, 2019, 14, 579-585.	15.6	128
212	A Survey on Architecture Advances Enabled by Emerging Beyond-CMOS Technologies. IEEE Design and Test, 2019, 36, 46-68.	1.1	16
213	Emerging Artificial Synaptic Devices for Neuromorphic Computing. Advanced Materials Technologies, 2019, 4, 1900037.	3.0	175
214	Understanding of proton induced synaptic behaviors in three-terminal synapse device for neuromorphic systems. Nanotechnology, 2019, 30, 255202.	1.3	29
215	Internal ion-gated organic electrochemical transistor: A building block for integrated bioelectronics. Science Advances, 2019, 5, eaau7378.	4.7	208
216	Influence of Frenkel defects on endurance behavior in SnO2:Cu memristors. Journal of Applied Physics, 2019, 125, .	1.1	4
217	Solid-State Electrochemical Process and Performance Optimization of Memristive Materials and Devices. Chemistry, 2019, 1, 44-68.	0.9	4
218	Dimensionality Dependent Plasticity in Halide Perovskite Artificial Synapses for Neuromorphic Computing. Advanced Electronic Materials, 2019, 5, 1900008.	2.6	109

	Сіта	tion Report	
#	Article	IF	CITATIONS
219	A Ferrite Synaptic Transistor with Topotactic Transformation. Advanced Materials, 2019, 31, e1900379.	11.1	134
220	Perovskite-related (CH ₃ NH ₃) ₃ Sb ₂ Br ₉ forming-free memristor and low-energy-consuming neuromorphic computing. Nanoscale, 2019, 11, 6453-6461.	for 2.8	121
221	Reinforcement learning with analogue memristor arrays. Nature Electronics, 2019, 2, 115-124.	13.1	247
222	Evolution of local conductance pathways in a single-molecule junction studied using the three-dimensional dynamic probe method. Nanoscale, 2019, 11, 5951-5959.	2.8	6
223	All-Solid-State Synaptic Transistors with High-Temperature Stability Using Proton Pump Gating of Strongly Correlated Materials. ACS Applied Materials & Interfaces, 2019, 11, 15733-15740.	4.0	36
224	Recent Progress in Threeâ€Terminal Artificial Synapses: From Device to System. Small, 2019, 15, e19006	595. 5.2	206
225	Processing Halide Perovskite Materials with Semiconductor Technology. Advanced Materials Technologies, 2019, 4, 1800729.	3.0	27
226	Using Floating-Gate Memory to Train Ideal Accuracy Neural Networks. IEEE Journal on Exploratory Solid-State Computational Devices and Circuits, 2019, 5, 52-57.	1.1	32
227	2D–Organic Hybrid Heterostructures for Optoelectronic Applications. Advanced Materials, 2019, 31, e1803831.	11.1	86
228	Reconfigurable Artificial Synapses between Excitatory and Inhibitory Modes Based on Singleâ€Gate Graphene Transistors. Advanced Electronic Materials, 2019, 5, 1800887.	2.6	32
229	Engineering Oxygen Migration for Homogeneous Volume Resistive Switching in 3â€Terminal Devices. Advanced Electronic Materials, 2019, 5, 1800629.	2.6	18
230	A flexible conformable artificial organ-damage memory system towards hazardous gas leakage based on a single organic transistor. Materials Horizons, 2019, 6, 717-726.	6.4	60
231	Human Brain/Cloud Interface. Frontiers in Neuroscience, 2019, 13, 112.	1.4	47
232	Morphological effects on polymeric mixed ionic/electronic conductors. Molecular Systems Design and Engineering, 2019, 4, 310-324.	1.7	46
233	Polymer Crystallinity Controls Water Uptake in Glycol Side-Chain Polymer Organic Electrochemical Transistors. Journal of the American Chemical Society, 2019, 141, 4345-4354.	6.6	179
234	Superconducting Neuromorphic Computing Using Quantum Phase-Slip Junctions. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.1	20
235	Bioinspired Artificial Sensory Nerve Based on Nafion Memristor. Advanced Functional Materials, 2019, 29, 1808783.	7.8	206
236	Metal ion-doped sol-gel film for emulating synaptic activity and short-term non-volatile memory. , 2019, , .		1

#	Article	IF	CITATIONS
237	Nano Resistive Memory (Re-RAM) Devices and their Applications. Reviews on Advanced Materials Science, 2019, 58, 248-270.	1.4	21
239	Redox transistors for neuromorphic computing. IBM Journal of Research and Development, 2019, 63, 9:1-9:9.	3.2	28
240	Fullerene-Based Switching Molecular Diodes Controlled by Oriented External Electric Fields. Journal of the American Chemical Society, 2019, 141, 19644-19654.	6.6	59
241	Electronic Tuning of Mixed Quinoidalâ€Aromatic Conjugated Polyelectrolytes: Direct Ionic Substitution on Polymer Mainâ€Chains. Angewandte Chemie, 2019, 131, 18146-18153.	1.6	2
242	(Bi0.2Sb0.8)2Te3 based dynamic synapses with programmable spatio-temporal dynamics. APL Materials, 2019, 7, 101107.	2.2	8
243	Low-Voltage Organic Nonvolatile Memory Transistors with Water-Soluble Polymers Containing Thermally Induced Radical Dipoles. ACS Applied Materials & Interfaces, 2019, 11, 48113-48120.	4.0	9
244	Near ideal synaptic functionalities in Li ion synaptic transistor using Li3POxSex electrolyte with high ionic conductivity. Scientific Reports, 2019, 9, 18883.	1.6	64
245	Highly Conducting, Transparent PEDOT:PSS Polymer Electrodes from Postâ€Treatment with Weak and Strong Acids. Advanced Electronic Materials, 2019, 5, 1800654.	2.6	87
246	Gate Modulation of Excitatory and Inhibitory Synaptic Plasticity in a Low-Temperature Polysilicon Thin Film Synaptic Transistor. ACS Applied Electronic Materials, 2019, 1, 132-140.	2.0	21
247	Energyâ€Efficient Organic Ferroelectric Tunnel Junction Memristors for Neuromorphic Computing. Advanced Electronic Materials, 2019, 5, 1800795.	2.6	144
248	Role of the Anion on the Transport and Structure of Organic Mixed Conductors. Advanced Functional Materials, 2019, 29, 1807034.	7.8	116
249	Memristor-based neural networks with weight simultaneous perturbation training. Nonlinear Dynamics, 2019, 95, 2893-2906.	2.7	66
250	A MoS ₂ /PTCDA Hybrid Heterojunction Synapse with Efficient Photoelectric Dual Modulation and Versatility. Advanced Materials, 2019, 31, e1806227.	11.1	336
251	Mechanisms for Enhanced State Retention and Stability in Redoxâ€Gated Organic Neuromorphic Devices. Advanced Electronic Materials, 2019, 5, 1800686.	2.6	66
252	Ionicâ€Liquid Doping Enables High Transconductance, Fast Response Time, and High Ion Sensitivity in Organic Electrochemical Transistors. Advanced Materials, 2019, 31, e1805544.	11.1	95
253	Forming-free artificial synapses with Ag point contacts at interface. Journal of Materiomics, 2019, 5, 296-302.	2.8	14
254	Control of Resistive Switching Voltage by Nanoparticleâ€Decorated Wrinkle Interface. Advanced Electronic Materials, 2019, 5, 1800503.	2.6	13
255	Quasiâ€Hodgkin–Huxley Neurons with Leaky Integrateâ€andâ€Fire Functions Physically Realized with Memristive Devices. Advanced Materials, 2019, 31, e1803849.	11.1	87

#	Article	IF	CITATIONS
256	Truly Concomitant and Independently Expressed Short―and Longâ€Term Plasticity in a Bi ₂ O ₂ Seâ€Based Threeâ€Terminal Memristor. Advanced Materials, 2019, 31, e1805769.	11.1	85
257	Designing crystallization in phase-change materials for universal memory and neuro-inspired computing. Nature Reviews Materials, 2019, 4, 150-168.	23.3	572
258	Long short-term memory networks in memristor crossbar arrays. Nature Machine Intelligence, 2019, 1, 49-57.	8.3	288
259	Bienenstock, Cooper, and Munro Learning Rules Realized in Secondâ€Order Memristors with Tunable Forgetting Rate. Advanced Functional Materials, 2019, 29, 1807316.	7.8	60
260	Nearâ€Infrared Annihilation of Conductive Filaments in Quasiplane MoSe ₂ /Bi ₂ Se ₃ Nanosheets for Mimicking Heterosynaptic Plasticity. Small, 2019, 15, e1805431.	5.2	85
261	Ion Electron–Coupled Functionality in Materials and Devices Based on Conjugated Polymers. Advanced Materials, 2019, 31, e1805813.	11.1	118
262	Emerging Memory Devices for Neuromorphic Computing. Advanced Materials Technologies, 2019, 4, 1800589.	3.0	307
263	W/WO _{3â^²x} based three-terminal synapse device with linear conductance change and high on/off ratio for neuromorphic application. Applied Physics Express, 2019, 12, 026503.	1.1	17
264	Ultrathin Conformable Organic Artificial Synapse for Wearable Intelligent Device Applications. ACS Applied Materials & Interfaces, 2019, 11, 1071-1080.	4.0	106
265	Selective growth of monolayer semiconductors for diverse synaptic junctions. 2D Materials, 2019, 6, 015029.	2.0	25
266	Artificial Synapse Emulated by Charge Trappingâ€Based Resistive Switching Device. Advanced Materials Technologies, 2019, 4, 1800342.	3.0	104
267	Artificial synapses based on nanomaterials. Nanotechnology, 2019, 30, 012001.	1.3	45
268	A high throughput molecular screening for organic electronics via machine learning: present status and perspective. Japanese Journal of Applied Physics, 2020, 59, SD0801.	0.8	43
269	Manipulating the Sensitivity and Selectivity of OECTâ€Based Biosensors via the Surface Engineering of Carbon Cloth Gate Electrodes. Advanced Functional Materials, 2020, 30, 1905361.	7.8	53
270	Organic mixed ionic–electronic conductors. Nature Materials, 2020, 19, 13-26.	13.3	453
271	Artificial Sensory Memory. Advanced Materials, 2020, 32, e1902434.	11.1	200
272	Nearâ€Infraredâ€Irradiationâ€Mediated Synaptic Behavior from Tunable Chargeâ€Trapping Dynamics. Advanced Electronic Materials, 2020, 6, 1900765.	2.6	37
273	Emerging neuromorphic devices. Nanotechnology, 2020, 31, 092001.	1.3	177

#	Article	IF	CITATIONS
274	Flexible Neuromorphic Electronics for Computing, Soft Robotics, and Neuroprosthetics. Advanced Materials, 2020, 32, e1903558.	11.1	289
275	Gating-induced reversible HxVO2 phase transformations for neuromorphic computing. Nano Energy, 2020, 67, 104268.	8.2	55
276	Roomâ€Temperatureâ€Formed PEDOT:PSS Hydrogels Enable Injectable, Soft, and Healable Organic Bioelectronics. Advanced Materials, 2020, 32, e1904752.	11.1	158
277	Natural chicken albumen gate dielectric for coplanar oxide electrochemical transistors with tunable threshold voltage. Organic Electronics, 2020, 77, 105517.	1.4	4
278	Artificial 2D van der Waals Synapse Devices via Interfacial Engineering for Neuromorphic Systems. Nanomaterials, 2020, 10, 88.	1.9	11
279	Memristive and CMOS Devices for Neuromorphic Computing. Materials, 2020, 13, 166.	1.3	83
280	Multi-gate memristive synapses realized with the lateral heterostructure of 2D WSe ₂ and WO ₃ . Nanoscale, 2020, 12, 380-387.	2.8	47
281	Gate-Tunable Synaptic Dynamics of Ferroelectric-Coupled Carbon-Nanotube Transistors. ACS Applied Materials & Interfaces, 2020, 12, 4707-4714.	4.0	51
282	Integration of Nanoscale and Macroscale Graphene Heterostructures for Flexible and Multilevel Nonvolatile Photoelectronic Memory. ACS Applied Nano Materials, 2020, 3, 608-616.	2.4	16
283	Improvement of analogue switching characteristics of MoS ₂ memristors through plasma treatment. Journal Physics D: Applied Physics, 2020, 53, 135305.	1.3	10
284	Ferroic tunnel junctions and their application in neuromorphic networks. Applied Physics Reviews, 2020, 7, .	5.5	91
285	Lithium Ion Alloying-Type Artificial Synapses. ACS Applied Electronic Materials, 2020, 2, 316-322.	2.0	7
286	Recent Progress in Artificial Synapses Based on Two-Dimensional van der Waals Materials for Brain-Inspired Computing. ACS Applied Electronic Materials, 2020, 2, 371-388.	2.0	110
287	Recent advances in modeling organic electrochemical transistors. Flexible and Printed Electronics, 2020, 5, 013001.	1.5	23
288	Reproducible Ultrathin Ferroelectric Domain Switching for Highâ€Performance Neuromorphic Computing. Advanced Materials, 2020, 32, e1905764.	11.1	147
289	Low-power-consumption organic field-effect transistors. JPhys Materials, 2020, 3, 014009.	1.8	22
290	Memristive synapses with high reproducibility for flexible neuromorphic networks based on biological nanocomposites. Nanoscale, 2020, 12, 720-730.	2.8	45
291	Recent Progress in Photonic Synapses for Neuromorphic Systems. Advanced Intelligent Systems, 2020, 2, 1900136.	3.3	132

#	Article	IF	CITATIONS
292	Hydrogelâ€Enabled Transferâ€Printing of Conducting Polymer Films for Soft Organic Bioelectronics. Advanced Functional Materials, 2020, 30, 1906016.	7.8	55
293	Emerging Devices for Biologically Accurate Neuron. ACS Applied Electronic Materials, 2020, 2, 389-397.	2.0	7
294	Artificial Synaptic Behavior of Aloe Polysaccharides-Based Device with Au as Top Electrode. MRS Advances, 2020, 5, 693-698.	0.5	4
295	Analysis of the Voltage-Dependent Plasticity in Organic Neuromorphic Devices. Electronics (Switzerland), 2020, 9, 4.	1.8	9
296	Albumen based protein gated bioinspired neuromorphic transistors with learning abilities. Organic Electronics, 2020, 87, 105961.	1.4	10
297	Contact Modulated Ionic Transfer Doping in Allâ€Solidâ€State Organic Electrochemical Transistor for Ultraâ€High Sensitive Tactile Perception at Low Operating Voltage. Advanced Functional Materials, 2020, 30, 2006186.	7.8	42
298	Ionâ€Gated Transistor: An Enabler for Sensing and Computing Integration. Advanced Intelligent Systems, 2020, 2, 2000156.	3.3	27
299	High-Performance Organic Electrochemical Transistors with Nanoscale Channel Length and Their Application to Artificial Synapse. ACS Applied Materials & Interfaces, 2020, 12, 49915-49925.	4.0	45
300	Oxideâ€Based Electrolyte ated Transistors for Spatiotemporal Information Processing. Advanced Materials, 2020, 32, e2003018.	11.1	104
301	Synaptic Plasticity in Semiconducting Singleâ€Walled Carbon Nanotubes Transistors. Advanced Intelligent Systems, 2020, 2, 2000154.	3.3	6
302	Vertical 0Dâ€Perovskite/2Dâ€MoS ₂ van der Waals Heterojunction Phototransistor for Emulating Photoelectric‧ynergistically Classical Pavlovian Conditioning and Neural Coding Dynamics. Small, 2020, 16, e2005217.	5.2	87
303	Design of a Controllable Redoxâ€Diffusive Threshold Switching Memristor. Advanced Electronic Materials, 2020, 6, 2000695.	2.6	43
304	Organic Bioelectronics: Using Highly Conjugated Polymers to Interface with Biomolecules, Cells, and Tissues in the Human Body. Advanced Materials Technologies, 2020, 5, 2000384.	3.0	38
305	Memristive Devices for Neuromorphic Applications: Comparative Analysis. BioNanoScience, 2020, 10, 834-847.	1.5	24
306	Photoreduced nanocomposites of graphene oxide/N-doped carbon dots toward all-carbon memristive synapses. NPG Asia Materials, 2020, 12, .	3.8	47
307	Towards biomimetic electronics that emulate cells. MRS Communications, 2020, 10, 398-412.	0.8	13
308	Nano-engineering and functionalization of hybrid Au–MexOy–TiO2 (Me = W, Ga) hetero-interfaces for optoelectronic receptors and nociceptors. Nanoscale, 2020, 12, 20177-20188.	2.8	20
309	Memtransistors Based on Non-Layered In ₂ S ₃ Two-Dimensional Thin Films With Optical-Modulated Multilevel Resistance States and Gate-Tunable Artificial Synaptic Plasticity. IEEE Access, 2020, 8, 106726-106734.	2.6	17

#	Article	IF	CITATIONS
310	Analysis of a Schottky Barrier MOSFET for Synaptic Device Using Hot Carrier Injection. Journal of Nanoscience and Nanotechnology, 2020, 20, 6592-6595.	0.9	0
311	All-printed ultra-flexible organic nanowire artificial synapses. Journal of Materials Chemistry C, 2020, 8, 11138-11144.	2.7	15
312	Demonstration of 2D MXene memristor: Stability, conduction mechanism, and synaptic plasticity. Materials Letters, 2020, 266, 127413.	1.3	22
313	Flexible Carbon Nanotube Synaptic Transistor for Neurological Electronic Skin Applications. ACS Nano, 2020, 14, 10402-10412.	7.3	86
314	Mixed receptors of AMPA and NMDA emulated using a â€~Polka Dot'-structured two-dimensional conjugated polymer-based artificial synapse. Nanoscale Horizons, 2020, 5, 1324-1331.	4.1	14
315	Investigation of hysteresis in hole transport layer free metal halide perovskites cells under dark conditions. Nanotechnology, 2020, 31, 445201.	1.3	17
316	An air-stable two-dimensional perovskite artificial synapse. Semiconductor Science and Technology, 2020, 35, 104001.	1.0	6
317	A synaptic transistor with NdNiO ₃ *. Chinese Physics B, 2020, 29, 098101.	0.7	6
318	Electric-field-induced healing of inanimate topographies: Multistate resistive switching and nano-sized artificial synapse functionality. Applied Surface Science, 2020, 530, 147190.	3.1	10
319	From Memristive Materials to Neural Networks. ACS Applied Materials & Interfaces, 2020, 12, 54243-54265.	4.0	56
320	A study on MoS2-based multilevel transistor memories for neuromorphic computing. Applied Physics Letters, 2020, 117, 213102.	1.5	10
321	The strategies of filament control for improving the resistive switching performance. Journal of Materials Chemistry C, 2020, 8, 16295-16317.	2.7	53
322	Proton-enabled activation of peptide materials for biological bimodal memory. Nature Communications, 2020, 11, 5896.	5.8	36
323	Neuromorphic Engineering for Hardware Computational Acceleration and Biomimetic Perception Motion Integration. Advanced Intelligent Systems, 2020, 2, 2000124.	3.3	17
324	Artificial van der Waals hybrid synapse and its application to acoustic pattern recognition. Nature Communications, 2020, 11, 3936.	5.8	125
325	Organic materials and devices for brain-inspired computing: From artificial implementation to biophysical realism. MRS Bulletin, 2020, 45, 631-640.	1.7	29
326	Label-free immunodetection of α-synuclein by using a microfluidics coplanar electrolyte-gated organic field-effect transistor. Biosensors and Bioelectronics, 2020, 167, 112433.	5.3	42
327	Physics for neuromorphic computing. Nature Reviews Physics, 2020, 2, 499-510.	11.9	422

#	Article	IF	CITATIONS
328	Implementation of Dropout Neuronal Units Based on Stochastic Memristive Devices in Neural Networks with High Classification Accuracy. Advanced Science, 2020, 7, 2001842.	5.6	24
329	Inkâ€Based Additive Nanomanufacturing of Functional Materials for Humanâ€Integrated Smart Wearables. Advanced Intelligent Systems, 2020, 2, 2000117.	3.3	17
330	Stimuliâ€Enabled Artificial Synapses for Neuromorphic Perception: Progress and Perspectives. Small, 2020, 16, e2001504.	5.2	55
331	One Transistor–Two Memristor Based on Amorphous Indium–Gallium–Zinc-Oxide for Neuromorphic Synaptic Devices. ACS Applied Electronic Materials, 2020, 2, 2837-2844.	2.0	21
332	Anisotropic Signal Processing with Trigonal Selenium Nanosheet Synaptic Transistors. ACS Nano, 2020, 14, 10018-10026.	7.3	43
333	High-Resolution Electrochemical Transistors Defined by Mold-Guided Drying of PEDOT:PSS Liquid Suspension. ACS Applied Electronic Materials, 2020, 2, 2611-2618.	2.0	4
334	Electromechanical coupling effects for data storage and synaptic devices. Nano Energy, 2020, 77, 105156.	8.2	16
335	Emulating synaptic response in n- and p-channel MoS2 transistors by utilizing charge trapping dynamics. Scientific Reports, 2020, 10, 12178.	1.6	21
336	Organic neuromorphic devices: Past, present, and future challenges. MRS Bulletin, 2020, 45, 619-630.	1.7	59
337	Control of conductive filament growth in flexible organic memristor by polymer alignment. Organic Electronics, 2020, 87, 105927.	1.4	28
338	Unveiling the structural origin to control resistance drift in phase-change memory materials. Materials Today, 2020, 41, 156-176.	8.3	96
339	On synapse intelligence emulated in a self-formed artificial synaptic network. Materials Horizons, 2020, 7, 2970-2977.	6.4	10
340	CMOS-Free Magnetic Domain Wall Leaky Integrate-and-Fire Neurons with Intrinsic Lateral Inhibition. , 2020, , .		0
341	Hardware implementation of photoelectrically modulated dendritic arithmetic and spike-timing-dependent plasticity enabled by an ion-coupling gate-tunable vertical OD-perovskite/2D-MoS ₂ hybrid-dimensional van der Waals heterostructure. Nanoscale, 2020, 12, 21798-21811.	2.8	51
342	Designing artificial sodium ion reservoirs to emulate biological synapses. NPG Asia Materials, 2020, 12,	3.8	17
343	Technologies toward next generation human machine interfaces: From machine learning enhanced tactile sensing to neuromorphic sensory systems. Applied Physics Reviews, 2020, 7, .	5.5	194
344	Decoupling Critical Parameters in Large-Range Crystallinity-Controlled Polypyrrole-Based High-Performance Organic Electrochemical Transistors. Chemistry of Materials, 2020, 32, 8606-8618.	3.2	26
345	Filamentâ€Free Bulk Resistive Memory Enables Deterministic Analogue Switching. Advanced Materials, 2020, 32, e2003984.	11.1	83

#	Article	IF	CITATIONS
346	Recent Technological Advances in Fabrication and Application of Organic Electrochemical Transistors. Advanced Materials Technologies, 2020, 5, 2000523.	3.0	46
347	Engineering Complex Synaptic Behaviors in a Single Device: Emulating Consolidation of Short-term Memory to Long-term Memory in Artificial Synapses via Dielectric Band Engineering. Nano Letters, 2020, 20, 7793-7801.	4.5	29
348	Achieving Microstructureâ€Controlled Synaptic Plasticity and Longâ€Term Retention in Ionâ€Gelâ€Gated Organic Synaptic Transistors. Advanced Intelligent Systems, 2020, 2, 2000012.	3.3	51
349	Designing Polymeric Mixed Conductors and Their Application to Electrochemicalâ€Transistorâ€Based Biosensors. Macromolecular Bioscience, 2020, 20, e2000211.	2.1	35
350	Electronic structure of technologically important interfaces and heterostructures. MRS Communications, 2020, 10, 529-537.	0.8	1
351	Mixed ion-electron transport in organic electrochemical transistors. Applied Physics Letters, 2020, 117, .	1.5	30
352	Optical Monitoring of the Resistive States of a Polyanilineâ€Based Memristive Device. Advanced Electronic Materials, 2020, 6, 2000511.	2.6	16
353	Recent Advances of Synthesis, Properties, Film Fabrication Methods, Modifications of Poly(3,4â€ethylenedioxythiophene), and Applications in Solutionâ€Processed Photovoltaics. Advanced Functional Materials, 2020, 30, 2006213.	7.8	90
354	Vertical organic synapse expandable to 3D crossbar array. Nature Communications, 2020, 11, 4595.	5.8	130
355	Biological receptor-inspired flexible artificial synapse based on ionic dynamics. Microsystems and Nanoengineering, 2020, 6, 84.	3.4	30
356	Dualâ€Gated MoS ₂ Memtransistor Crossbar Array. Advanced Functional Materials, 2020, 30, 2003683.	7.8	73
357	Recent Advances on Neuromorphic Devices Based on Chalcogenide Phaseâ€Change Materials. Advanced Functional Materials, 2020, 30, 2003419.	7.8	144
358	Apical poles without neighbouring cells. Nature Materials, 2020, 19, 935-937.	13.3	0
359	Flexible and Insoluble Artificial Synapses Based on Chemical Crossâ€Linked Wool Keratin. Advanced Functional Materials, 2020, 30, 2002882.	7.8	42
360	Integration and Co-design of Memristive Devices and Algorithms for Artificial Intelligence. IScience, 2020, 23, 101809.	1.9	49
361	Emerging Materials for Neuromorphic Devices and Systems. IScience, 2020, 23, 101846.	1.9	66
362	Electrical Properties and Biological Synaptic Simulation of Ag/MXene/SiO2/Pt RRAM Devices. Electronics (Switzerland), 2020, 9, 2098.	1.8	25
363	Neuromorphic Engineering: From Biological to Spikeâ€Based Hardware Nervous Systems. Advanced Materials, 2020, 32, e2003610.	11.1	153

#	Article	IF	CITATIONS
364	Experimental Studies on the Dynamic Memcapacitance Modulation of the ReO3@ReS2 Composite Material-Based Diode. Nanomaterials, 2020, 10, 2103.	1.9	4
365	Single-Molecule Detection of Acetylcholine by Translating the Neuronal Signal to a Single Distinct Electronic Peak. ACS Applied Bio Materials, 2020, 3, 6888-6896.	2.3	4
366	Evolving conductive polymer neural networks on wetware. Japanese Journal of Applied Physics, 2020, 59, 060601.	0.8	14
367	Perovskite neural trees. Nature Communications, 2020, 11, 2245.	5.8	38
368	A van der Waals Synaptic Transistor Based on Ferroelectric Hf _{0.5} Zr _{0.5} O ₂ and 2D Tungsten Disulfide. Advanced Electronic Materials, 2020, 6, 2000057.	2.6	68
369	Carbazole Derivatized nâ€Alkyl Methacrylate Polymeric Memristors as Flexible Synaptic Substitutes. Advanced Electronic Materials, 2020, 6, 2000042.	2.6	8
370	Novel Type of Synaptic Transistors Based on a Ferroelectric Semiconductor Channel. ACS Applied Materials & Interfaces, 2020, 12, 24920-24928.	4.0	41
371	Fundamentals, impedance, and performance of solid-state Li-metal microbatteries. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, 033212.	0.9	3
372	An Optically Modulated Organic Schottkyâ€Barrier Planarâ€Diodeâ€Based Artificial Synapse. Advanced Optical Materials, 2020, 8, 2000153.	3.6	52
373	Heterosynaptic Plasticity Emulated by Liquid Crystal–Carbon Nanotube Composites with Modulatory Interneurons. ACS Applied Materials & Interfaces, 2020, 12, 27467-27475.	4.0	12
374	Polymer Electronics: To Be or Not to Be?. Advanced Materials Technologies, 2020, 5, 2000144.	3.0	37
375	Device and Circuit Architectures for Inâ€Memory Computing. Advanced Intelligent Systems, 2020, 2, 2000040.	3.3	100
376	Biomemristors as the next generation bioelectronics. Nano Energy, 2020, 75, 104938.	8.2	110
377	Artificial synaptic transistors based on Schottky barrier height modulation using reduced graphene oxides. Carbon, 2020, 165, 455-460.	5.4	15
378	Three Artificial Spintronic Leaky Integrate-and-Fire Neurons. Spin, 2020, 10, .	0.6	4
379	Oxidation-boosted charge trapping in ultra-sensitive van der Waals materials for artificial synaptic features. Nature Communications, 2020, 11, 2972.	5.8	83
380	A biohybrid synapse with neurotransmitter-mediated plasticity. Nature Materials, 2020, 19, 969-973.	13.3	215
381	Learning with brain chemistry. Nature Materials, 2020, 19, 934-935.	13.3	3

		CITATION REI	PORT	
#	Article		IF	CITATIONS
382	A flexible artificial intrinsic-synaptic tactile sensory organ. Nature Communications, 2020, 11, 2753		5.8	115
383	Memristive Fuzzy Deep Learning Systems. IEEE Transactions on Fuzzy Systems, 2021, 29, 2224-22	38.	6.5	6
384	Bioinspired Ionic Sensory Systems: The Successor of Electronics. Advanced Materials, 2020, 32, e2000218.		11.1	99
385	Bioinspired Multifunctional Organic Transistors Based on Natural Chlorophyll/Organic Semiconductors. Advanced Materials, 2020, 32, e2001227.		11.1	133
386	Multifunctional smart electronic skin fabricated from two-dimensional like polymer film. Nano Energy, 2020, 75, 105044.		8.2	27
387	Controlling the Neuromorphic Behavior of Organic Electrochemical Transistors by Blending Mixed and Ion Conductors. ACS Applied Electronic Materials, 2020, 2, 2224-2228.		2.0	32
388	Water-Based PEDOT:Nafion Dispersion for Organic Bioelectronics. ACS Applied Materials & Interfaces, 2020, 12, 29807-29817.		4.0	13
389	Emerging memory devices for artificial synapses. Journal of Materials Chemistry C, 2020, 8, 9163-9	183.	2.7	48
390	Protonic solid-state electrochemical synapse for physical neural networks. Nature Communications 2020, 11, 3134.	,	5.8	82
391	Graphene muscle with artificial intelligence. , 2020, , .			1
392	Lowering the threshold for bioelectronics. Nature Materials, 2020, 19, 584-586.		13.3	3
393	Ultralow Power Wearable Heterosynapse with Photoelectric Synergistic Modulation. Advanced Science, 2020, 7, 1903480.		5.6	95
394	Three-Dimensional Nanoscale Flexible Memristor Networks with Ultralow Power for Information Transmission and Processing Application. Nano Letters, 2020, 20, 4111-4120.		4.5	134
395	Enhancement-mode ion-based transistor as a comprehensive interface and real-time processing uni for in vivo electrophysiology. Nature Materials, 2020, 19, 679-686.		13.3	182
396	2D MXene–TiO ₂ Core–Shell Nanosheets as a Data‣torage Medium in Memory Advanced Materials, 2020, 32, e1907633.	Devices.	11.1	89
397	Electret-Based Organic Synaptic Transistor for Neuromorphic Computing. ACS Applied Materials &a Interfaces, 2020, 12, 15446-15455.	mp;	4.0	94
398	Study on the Performance of Superlattice-Like Thin Film V ₂ O ₅ /Sb in Phas Change Memory. ECS Journal of Solid State Science and Technology, 2020, 9, 033003.	e	0.9	5
399	IGZO-based floating-gate synaptic transistors for neuromorphic computing. Journal Physics D: Appli Physics, 2020, 53, 215106.	ed	1.3	45

#	ARTICLE	IF	CITATIONS
400	Temporal versatility from intercalation-based neuromorphic devices exhibiting 150 mV non-volatile operation. Journal of Applied Physics, 2020, 127, .	1.1	12
401	Enhancementâ€Mode PEDOT:PSS Organic Electrochemical Transistors Using Molecular Deâ€Doping. Advanced Materials, 2020, 32, e2000270.	11.1	109
402	Semiconductor Quantum Dots for Memories and Neuromorphic Computing Systems. Chemical Reviews, 2020, 120, 3941-4006.	23.0	203
403	Low consumption two-terminal artificial synapse based on transfer-free single-crystal MoS ₂ memristor. Nanotechnology, 2020, 31, 265202.	1.3	32
404	Room-temperature developed flexible biomemristor with ultralow switching voltage for array learning. Nanoscale, 2020, 12, 9116-9123.	2.8	33
405	Optically Stimulated Synaptic Devices Based on the Hybrid Structure of Silicon Nanomembrane and Perovskite. Nano Letters, 2020, 20, 3378-3387.	4.5	121
406	Memory devices and applications for in-memory computing. Nature Nanotechnology, 2020, 15, 529-544.	15.6	968
407	A Reversible Structural Phase Transition by Electrochemically-Driven Ion Injection into a Conjugated Polymer. Journal of the American Chemical Society, 2020, 142, 7434-7442.	6.6	74
408	Ion Exchange Gels Allow Organic Electrochemical Transistor Operation with Hydrophobic Polymers in Aqueous Solution. Advanced Materials, 2020, 32, e2002610.	11.1	61
400			
409	Two-terminal optoelectronic memory device. , 2020, , 75-105.		0
409	Two-terminal optoelectronic memory device. , 2020, , 75-105. Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering applications. , 2020, , 145-177.		0
	Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering		
410	Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering applications. , 2020, , 145-177. Metal oxide materials for photoelectroactive memories and neuromorphic computing systems. , 2020, ,	1.4	1
410 411	Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering applications. , 2020, , 145-177. Metal oxide materials for photoelectroactive memories and neuromorphic computing systems. , 2020, , 251-278. Toward Scalable, Efficient, and Accurate Deep Spiking Neural Networks With Backward Residual	1.4	1
410 411 412	 Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering applications. , 2020, , 145-177. Metal oxide materials for photoelectroactive memories and neuromorphic computing systems. , 2020, , 251-278. Toward Scalable, Efficient, and Accurate Deep Spiking Neural Networks With Backward Residual Connections, Stochastic Softmax, and Hybridization. Frontiers in Neuroscience, 2020, 14, 653. Memory update characteristics of carbon nanotube memristors (NRAM®) under circuitry-relevant 	1.4	1 1 58
410 411 412 413	Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering applications., 2020,, 145-177. Metal oxide materials for photoelectroactive memories and neuromorphic computing systems., 2020,, 251-278. Toward Scalable, Efficient, and Accurate Deep Spiking Neural Networks With Backward Residual Connections, Stochastic Softmax, and Hybridization. Frontiers in Neuroscience, 2020, 14, 653. Memory update characteristics of carbon nanotube memristors (NRAM®) under circuitry-relevant operation conditions., 2020,,. Temperature-resilient solid-state organic artificial synapses for neuromorphic computing. Science		1 1 58 0
 410 411 412 413 414 	Ionic synergetically coupled electrolyte-gated transistors for neuromorphic engineering applications., 2020,, 145-177. Metal oxide materials for photoelectroactive memories and neuromorphic computing systems., 2020,, 251-278. Toward Scalable, Efficient, and Accurate Deep Spiking Neural Networks With Backward Residual Connections, Stochastic Softmax, and Hybridization. Frontiers in Neuroscience, 2020, 14, 653. Memory update characteristics of carbon nanotube memristors (NRAM®) under circuitry-relevant operation conditions., 2020,,. Temperature-resilient solid-state organic artificial synapses for neuromorphic computing. Science Advances, 2020, 6,. Two-dimensional materials for next-generation computing technologies. Nature Nanotechnology,	4.7	1 1 58 0 131

#	Article		CITATIONS
418	Brain-inspired biodegradable pectin based proton conductor gated electronic synapse. Organic Electronics, 2020, 82, 105782.	1.4	11
419	Optogenetics inspired transition metal dichalcogenide neuristors for in-memory deep recurrent neural networks. Nature Communications, 2020, 11, 3211.	5.8	36
420	Controlled Growth of Fine Multifilaments in Polymer-Based Memristive Devices Via the Conduction Control. ACS Applied Materials & amp; Interfaces, 2020, 12, 34370-34377.	4.0	23
421	Contact engineering of single core/shell SiC/SiO ₂ nanowire memory unit with high current tolerance using focused femtosecond laser irradiation. Nanoscale, 2020, 12, 5618-5626.	2.8	11
422	Excellent synaptic behavior of lithium-based nano-ionic transistor based on optimal WO _{2.7} stoichiometry with high ion diffusivity. Nanotechnology, 2020, 31, 235203.	1.3	28
423	Neuromorphic nanoelectronic materials. Nature Nanotechnology, 2020, 15, 517-528.	15.6	464
424	NiO-based memristor with three resistive switching modes. Semiconductor Science and Technology, 2020, 35, 055004.	1.0	28
425	The Design of 3Dâ€Interface Architecture in an Ultralowâ€Power, Electrospun Singleâ€Fiber Synaptic Transistor for Neuromorphic Computing. Small, 2020, 16, e1907472.	5.2	54
426	Building memory devices from biocomposite electronic materials. Science and Technology of Advanced Materials, 2020, 21, 100-121.	2.8	39
427	An electronic synapse device based on aluminum nitride memristor for neuromorphic computing application. Journal Physics D: Applied Physics, 2020, 53, 195101.	1.3	13
428	A comprehensive review on emerging artificial neuromorphic devices. Applied Physics Reviews, 2020, 7,	5.5	417
429	Electroforming in Metal-Oxide Memristive Synapses. ACS Applied Materials & Interfaces, 2020, 12, 11806-11814.	4.0	23
430	Configurable Resistive Response in BaTiO ₃ Ferroelectric Memristors via Electron Beam Radiation. Advanced Materials, 2020, 32, e1907541.	11.1	25
431	Synergistic Improvement of Longâ€Term Plasticity in Photonic Synapses Using Ferroelectric Polarization in Hafniaâ€Based Oxideâ€6emiconductor Transistors. Advanced Materials, 2020, 32, e1907826.	11.1	113
432	P-Type Electrochemical Doping Can Occur by Cation Expulsion in a High-Performing Polymer for Organic Electrochemical Transistors. , 2020, 2, 254-260.		53
433	Resistive switching materials forÂinformation processing. Nature Reviews Materials, 2020, 5, 173-195.	23.3	668
434	Threshold-Tunable, Spike-Rate-Dependent Plasticity Originating from Interfacial Proton Gating for Pattern Learning and Memory. ACS Applied Materials & Interfaces, 2020, 12, 7833-7839.	4.0	41
435	Electrolyte-gated transistors for synaptic electronics, neuromorphic computing, and adaptable biointerfacing. Applied Physics Reviews, 2020, 7, .	5.5	166

#	Article	IF	CITATIONS
436	Modulation of Synaptic Plasticity Mimicked in Al Nanoparticleâ€Embedded IGZO Synaptic Transistor. Advanced Electronic Materials, 2020, 6, 1901072.	2.6	47
437	Solution-Processed Multiterminal Artificial Synapses Based on Ion-Doped Solid Electrolytes. ACS Applied Electronic Materials, 2020, 2, 339-345.	2.0	15
438	Soft and Ion onducting Materials in Bioelectronics: From Conducting Polymers to Hydrogels. Advanced Healthcare Materials, 2020, 9, e1901372.	3.9	71
439	Rational Band Engineering of an Organic Double Heterojunction for Artificial Synaptic Devices with Enhanced State Retention and Linear Update of Synaptic Weight. ACS Applied Materials & Interfaces, 2020, 12, 10737-10745.	4.0	14
440	Empirical Modeling of Photoenhanced Current–Voltage Hysteresis in PEDOT:PSS/ZnO Thin-Film Devices. Journal of Electronic Materials, 2020, 49, 3130-3139.	1.0	1
441	Nanoscale All-Oxide-Heterostructured Bio-inspired Optoresponsive Nociceptor. Nano-Micro Letters, 2020, 12, 83.	14.4	33
442	Sputtering-deposited amorphous SrVOx-based memristor for use in neuromorphic computing. Scientific Reports, 2020, 10, 5761.	1.6	19
443	Three-dimensional memristor circuits as complex neural networks. Nature Electronics, 2020, 3, 225-232.	13.1	242
444	Piezotronic Synapse Based on a Single GaN Microwire for Artificial Sensory Systems. Nano Letters, 2020, 20, 3761-3768.	4.5	26
445	Highly aligned indium zinc oxide nanowire-based artificial synapses with low-energy consumption. Journal of Industrial and Engineering Chemistry, 2020, 88, 111-116.	2.9	17
446	Memristive response and electrochemical processes in polyaniline based organic devices. Organic Electronics, 2020, 83, 105757.	1.4	4
447	Two-terminal artificial synapse with hybrid organic–inorganic perovskite (CH3NH3)PbI3 and low operating power energy (â^¼47ÂfJ/μm2). Journal of Alloys and Compounds, 2020, 833, 155064.	2.8	41
448	Two-terminal photonic neuromorphic devices with short/long-term plasticity based on interface charge effects. Organic Electronics, 2020, 83, 105749.	1.4	4
449	Evolution of Bioâ€Inspired Artificial Synapses: Materials, Structures, and Mechanisms. Small, 2021, 17, e2000041.	5.2	55
450	Memristive Quantized Neural Networks: A Novel Approach to Accelerate Deep Learning On-Chip. IEEE Transactions on Cybernetics, 2021, 51, 1875-1887.	6.2	28
451	A Compact Gated-Synapse Model for Neuromorphic Circuits. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2021, 40, 1887-1895.	1.9	4
452	Neuromorphic computing systems based on flexible organic electronics. , 2021, , 531-574.		6
453	Transparent and Flexible Inorganic Perovskite Photonic Artificial Synapses with Dualâ€Mode Operation. Advanced Functional Materials, 2021, 31, 2008259.	7.8	83

#	Article	IF	CITATIONS
454	Redox MXene Artificial Synapse with Bidirectional Plasticity and Hypersensitive Responsibility. Advanced Functional Materials, 2021, 31, .	7.8	53
455	A conversion-type electrochemical artificial synapse for plasticity modulation and dendritic application. Materials Chemistry Frontiers, 2021, 5, 775-782.	3.2	6
456	Subâ€Femtojouleâ€Energyâ€Consumption Conformable Synaptic Transistors Based on Organic Singleâ€Crystalline Nanoribbons. Advanced Functional Materials, 2021, 31, 2007894.	7.8	45
457	How is flexible electronics advancing neuroscience research?. Biomaterials, 2021, 268, 120559.	5.7	32
458	Organic Memristive Devices for Neuromorphic Applications. BioNanoScience, 2021, 11, 227-231.	1.5	2
459	The Future of Memristors: Materials Engineering and Neural Networks. Advanced Functional Materials, 2021, 31, 2006773.	7.8	187
460	Integrated bioelectronic proton-gated logic elements utilizing nanoscale patterned Nafion. Materials Horizons, 2021, 8, 224-233.	6.4	9
461	Magnetic skyrmions for unconventional computing. Materials Horizons, 2021, 8, 854-868.	6.4	74
462	Highly Uniform Allâ€Vacuumâ€Deposited Inorganic Perovskite Artificial Synapses for Reservoir Computing. Advanced Intelligent Systems, 2021, 3, 2000196.	3.3	18
463	Solution-processed oxide semiconductor-based artificial optoelectronic synapse array for spatiotemporal synaptic integration. Journal of Alloys and Compounds, 2021, 857, 158027.	2.8	22
464	Artificial synapses that exploit ionic modulation for perception and integration. Materials Today Physics, 2021, 18, 100329.	2.9	11
465	A Monochloro Copper Phthalocyanine Memristor with Highâ€Temperature Resilience for Electronic Synapse Applications. Advanced Materials, 2021, 33, e2006201.	11.1	51
466	Solution-processed electronics for artificial synapses. Materials Horizons, 2021, 8, 447-470.	6.4	74
467	Synaptic Iontronic Devices for Brain-Mimicking Functions: Fundamentals and Applications. ACS Applied Bio Materials, 2021, 4, 71-84.	2.3	25
468	Artificial Skin Perception. Advanced Materials, 2021, 33, e2003014.	11.1	203
469	Memory Devices for Flexible and Neuromorphic Device Applications. Advanced Intelligent Systems, 2021, 3, 2000206.	3.3	14
470	Electroactive macromolecular motors as model materials of ectotherm muscles. RSC Advances, 2021, 11, 21489-21506.	1.7	8
471	An optoelectronic synaptic transistor with efficient dual modulation by light illumination. Journal of Materials Chemistry C, 2021, 9, 3412-3420.	2.7	40

#	Article	IF	CITATIONS
472	Phototunable memories and reconfigurable logic applications based on natural melanin. Journal of Materials Chemistry C, 2021, 9, 3569-3577.	2.7	17
473	Ethylenedioxythiophene incorporated diketopyrrolopyrrole conjugated polymers for high-performance organic electrochemical transistors. Journal of Materials Chemistry C, 2021, 9, 4260-4266.	2.7	19
474	Cognitive Augmentation Via a Brain/Cloud Interface. Contemporary Clinical Neuroscience, 2021, , 357-386.	0.3	0
475	Ion-gating synaptic transistors with long-term synaptic weight modulation. Journal of Materials Chemistry C, 2021, 9, 5396-5402.	2.7	16
476	Flexible Artificial Sensory Systems Based on Neuromorphic Devices. ACS Nano, 2021, 15, 3875-3899.	7.3	135
477	Long- and Short-Term Conductance Control of Artificial Polymer Wire Synapses. Polymers, 2021, 13, 312.	2.0	7
479	High photosensitivity light-controlled planar ZnO artificial synapse for neuromorphic computing. Nanoscale, 2021, 13, 2502-2510.	2.8	25
480	Integrated neuromorphic computing networks by artificial spin synapses and spin neurons. NPG Asia Materials, 2021, 13, .	3.8	28
481	Electrolyte-gated transistors for neuromorphic applications. Journal of Semiconductors, 2021, 42, 013103.	2.0	23
482	Anisotropic ionic transport-controlled synaptic weight update by protonation in a VO ₂ transistor. Journal of Materials Chemistry C, 2021, 9, 2521-2529.	2.7	12
483	Flexible and transparent memristive synapse based on polyvinylpyrrolidone/N-doped carbon quantum dot nanocomposites for neuromorphic computing. Nanoscale Advances, 2021, 3, 2623-2631.	2.2	17
484	Thin-film transistors for emerging neuromorphic electronics: fundamentals, materials, and pattern recognition. Journal of Materials Chemistry C, 2021, 9, 11464-11483.	2.7	31
485	Ferroelectric polymer-based artificial synapse for neuromorphic computing. Nanoscale Horizons, 2021, 6, 139-147.	4.1	68
486	Interfacial water morphology in hydrated melanin. Soft Matter, 2021, 17, 7940-7952.	1.2	6
487	Hafnium Oxideâ€Based Ferroelectric Devices for Computingâ€inâ€Memory Applications. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000635.	0.8	13
488	Photonic Synapses with Ultra‣ow Energy Consumption Based on Vertical Organic Fieldâ€Effect Transistors. Advanced Optical Materials, 2021, 9, 2002030.	3.6	50
489	A Battery-Like Self-Selecting Biomemristor from Earth-Abundant Natural Biomaterials. ACS Applied Bio Materials, 2021, 4, 1976-1985.	2.3	30
490	Biologically Plausible Artificial Synaptic Array: Replicating Ebbinghaus' Memory Curve with Selective Attention. Advanced Materials, 2021, 33, e2007782.	11.1	32

#	Article	IF	CITATIONS
491	Selective Release of Different Neurotransmitters Emulated by a p–i–n Junction Synaptic Transistor for Environmentâ€Responsive Action Control. Advanced Materials, 2021, 33, e2007350.	11.1	70
492	Mimicking efferent nerves using a graphdiyne-based artificial synapse with multiple ion diffusion dynamics. Nature Communications, 2021, 12, 1068.	5.8	115
493	Multiplexed neurochemical transmission emulated using a dual-excitatory synaptic transistor. Npj 2D Materials and Applications, 2021, 5, .	3.9	12
494	Crosslinked PEDOT:PSS Organic Electrochemical Transistors on Interdigitated Electrodes with Improved Stability. ACS Applied Polymer Materials, 2021, 3, 1436-1444.	2.0	21
495	The role of the polyelectrolyte composition in kinetic behaviour of organic memristive device. Microelectronic Engineering, 2021, 239-240, 111527.	1.1	3
496	MXeneâ€ZnO Memristor for Multimodal Inâ€Sensor Computing. Advanced Functional Materials, 2021, 31, 2100144.	7.8	101
497	Optically stimulated synaptic transistor based on MoS ₂ /quantum dots mixed-dimensional heterostructure with gate-tunable plasticity. Optics Letters, 2021, 46, 1748.	1.7	12
498	Flexible printed single-walled carbon nanotubes olfactory synaptic transistors with crosslinked poly(4-vinylphenol) as dielectrics. Flexible and Printed Electronics, 2021, 6, 034001.	1.5	16
499	Transient Investigation of Metal-oxide based, CMOS-compatible ECRAM. , 2021, , .		4
500	A Hippocampusâ€Inspired Dualâ€Gated Organic Artificial Synapse for Simultaneous Sensing of a Neurotransmitter and Light. Advanced Materials, 2021, 33, e2100119.	11.1	59
501	Highâ€Gain Chemically Gated Organic Electrochemical Transistor. Advanced Functional Materials, 2021, 31, 2010868.	7.8	46
502	Functional Applications of Future Data Storage Devices. Advanced Electronic Materials, 2021, 7, 2001181.	2.6	20
503	Thickness/morphology of functional material patterned by topographical discontinuous dewetting. Nano Select, 2021, 2, 1723-1740.	1.9	4
504	A Flexible Mott Synaptic Transistor for Nociceptor Simulation and Neuromorphic Computing. Advanced Functional Materials, 2021, 31, 2101099.	7.8	76
505	Redâ€Lightâ€Stimulated Photonic Synapses Based on Nonvolatile Perovskiteâ€Based Photomemory. Advanced Photonics Research, 2021, 2, 2000185.	1.7	21
506	Diffusive and Drift Halide Perovskite Memristive Barristors as Nociceptive and Synaptic Emulators for Neuromorphic Computing. Advanced Materials, 2021, 33, 2007851.	11.1	83
507	Memristive Artificial Synapses for Neuromorphic Computing. Nano-Micro Letters, 2021, 13, 85.	14.4	108
508	Zeoliteâ€Based Memristive Synapse with Ultralow Subâ€10â€fJ Energy Consumption for Neuromorphic Computation. Small, 2021, 17, e2006662.	5.2	13

#	Article	IF	CITATIONS
509	Allâ€Solidâ€State Ion Synaptic Transistor for Waferâ€Scale Integration with Electrolyte of a Nanoscale Thickness. Advanced Functional Materials, 2021, 31, 2010971.	7.8	34
510	Nanofiber Channel Organic Electrochemical Transistors for Lowâ€Power Neuromorphic Computing and Wideâ€Bandwidth Sensing Platforms. Advanced Science, 2021, 8, 2001544.	5.6	42
511	A Biomimetic Evolvable Organic Electrochemical Transistor. Advanced Electronic Materials, 2021, 7, 2001126.	2.6	26
512	Mixed Conduction in an Nâ€Type Organic Semiconductor in the Absence of Hydrophilic Sideâ€Chains. Advanced Functional Materials, 2021, 31, 2010165.	7.8	71
513	Energy-efficient Mott activation neuron for full-hardware implementation of neural networks. Nature Nanotechnology, 2021, 16, 680-687.	15.6	73
514	Recharged Catalyst with Memristive Nitrogen Reduction Activity through Learning Networks of Spiking Neurons. Journal of the American Chemical Society, 2021, 143, 5378-5385.	6.6	56
515	Brain-inspired ferroelectric Si nanowire synaptic device. APL Materials, 2021, 9, .	2.2	17
516	Super-Resolution Photothermal Patterning in Conductive Polymers Enabled by Thermally Activated Solubility. ACS Nano, 2021, 15, 7006-7020.	7.3	3
517	Synaptic plasticity and classical conditioning mimicked in single indium-tungsten-oxide based neuromorphic transistor*. Chinese Physics B, 2021, 30, 058102.	0.7	3
518	In situ Parallel Training of Analog Neural Network Using Electrochemical Random-Access Memory. Frontiers in Neuroscience, 2021, 15, 636127.	1.4	24
519	Synaptic behavior of Ni–Co layered double hydroxide-based memristor. Applied Physics Letters, 2021, 118, .	1.5	13
520	A high-conductivity n-type polymeric ink for printed electronics. Nature Communications, 2021, 12, 2354.	5.8	120
522	Multifunctional molybdenum disulfide flash memory using a PEDOT:PSS floating gate. NPG Asia Materials, 2021, 13, .	3.8	13
523	Giant Ferroelectric Resistance Switching Controlled by a Modulatory Terminal for Lowâ€Power Neuromorphic Inâ€Memory Computing. Advanced Materials, 2021, 33, e2008709.	11.1	63
524	Memory-centric neuromorphic computing for unstructured data processing. Nano Research, 2021, 14, 3126-3142.	5.8	21
525	One Transistor One Electrolyteâ€Gated Transistor Based Spiking Neural Network for Powerâ€Efficient Neuromorphic Computing System. Advanced Functional Materials, 2021, 31, 2100042.	7.8	46
526	New Silk Road: From Mesoscopic Reconstruction/Functionalization to Flexible Mesoâ€Electronics/Photonics Based on Cocoon Silk Materials. Advanced Materials, 2021, 33, e2005910.	11.1	45
527	Organic electronic synapses with low energy consumption. Joule, 2021, 5, 794-810.	11.7	79

#	Article		CITATIONS
528	Stimuliâ€Responsive Memristive Materials for Artificial Synapses and Neuromorphic Computing. Advanced Materials, 2021, 33, e2006469.		88
529	Non-Volatile In-Ga-Zn-O Transistors for Neuromorphic Computing. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	1.1	6
530	Mimicking associative learning using an ion-trapping non-volatile synaptic organic electrochemical transistor. Nature Communications, 2021, 12, 2480.	5.8	128
531	Organic synaptic transistors for flexible and stretchable artificial sensory nerves. MRS Bulletin, 2021, 46, 321-329.	1.7	21
532	Indium oxide nanomesh-based electrolyte-gated synaptic transistors. Journal of Information Display, 2021, 22, 179-185.	2.1	5
533	Organic Synaptic Transistors: The Evolutionary Path from Memory Cells to the Application of Artificial Neural Networks. Advanced Functional Materials, 2021, 31, 2101951.	7.8	73
534	Artificial stimulus-response system capable of conscious response. Science Advances, 2021, 7, .	4.7	44
535	CsFAMAPbIBr Photoelectric Memristor Based on Ionâ€Migration Induced Memristive Behavior. Advanced Electronic Materials, 2021, 7, 2100014.	2.6	19
536	Nonâ€Volatile Electrolyteâ€Gated Transistors Based on Graphdiyne/MoS ₂ with Robust Stability for Lowâ€Power Neuromorphic Computing and Logicâ€Inâ€Memory. Advanced Functional Materials, 2021, 31, 2100069.	7.8	66
537	Oxidative molecular layer deposition of PEDOT using volatile antimony(V) chloride oxidant. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, 032413.	0.9	11
538	Neuro-Inspired Signal Processing in Ferromagnetic Nanofibers. Biomimetics, 2021, 6, 32.	1.5	6
539	Modeling of oxide-based ECRAM programming by drift-diffusion ion transport. , 2021, , .		3
540	Brain-inspired computing via memory device physics. APL Materials, 2021, 9, .	2.2	49
541	Dendritic Network Implementable Organic Neurofiber Transistors with Enhanced Memory Cyclic Endurance for Spatiotemporal Iterative Learning. Advanced Materials, 2021, 33, e2100475.	11.1	35
542	<scp>Spectrumâ€dependent</scp> photonic synapses based on <scp>2D</scp> imine polymers for <scp>powerâ€efficient</scp> neuromorphic computing. InformaÄnÃ-Materiály, 2021, 3, 904-916.	8.5	57
543	Emerging MXenes for Functional Memories. Small Science, 2021, 1, 2100006.	5.8	50
544	Neural Functional Connectivity Reconstruction with Secondâ€Order Memristor Network. Advanced Intelligent Systems, 2021, 3, 2000276.	3.3	9
545	An electroforming-free, analog interface-type memristor based on a SrFeOx epitaxial heterojunction for neuromorphic computing. Materials Today Physics, 2021, 18, 100392.	2.9	42

#	Article	IF	CITATIONS
546	Halide perovskite two-terminal analog memristor capable of photo-activated synaptic weight modulation for neuromorphic computing. Applied Physics Letters, 2021, 118, .	1.5	35
547	Recent Progress on Emerging Transistorâ€Based Neuromorphic Devices. Advanced Intelligent Systems, 2021, 3, 2000210.	3.3	47
548	Energy-efficient flexible photoelectric device with 2D/0D hybrid structure for bio-inspired artificial heterosynapse application. Nano Energy, 2021, 83, 105815.	8.2	42
549	Multimodal optoelectronic neuromorphic electronics based on lead-free perovskite-mixed carbon nanotubes. Carbon, 2021, 176, 592-601.	5.4	35
550	Synaptic devices based neuromorphic computing applications in artificial intelligence. Materials Today Physics, 2021, 18, 100393.	2.9	110
551	Doping-Enabled Reconfigurable Strongly Correlated Phase in a Quasi-2D Perovskite. Journal of Physical Chemistry Letters, 2021, 12, 5091-5098.	2.1	1
552	WSe ₂ /graphene heterojunction synaptic phototransistor with both electrically and optically tunable plasticity. 2D Materials, 2021, 8, 035034.	2.0	17
553	Top–Down Coarse-Grained Framework for Characterizing Mixed Conducting Polymers. Macromolecules, 2021, 54, 4889-4901.	2.2	16
554	Total Ionizing Dose Effects on Multistate HfOâ,"-Based RRAM Synaptic Array. IEEE Transactions on Nuclear Science, 2021, 68, 756-761.	1.2	6
555	Spike-dependent plasticity modulation in TiO2-based synaptic device. Journal of Materials Science: Materials in Electronics, 2021, 32, 13051-13061.	1.1	10
556	Realization and training of an inverter-based printed neuromorphic computing system. Scientific Reports, 2021, 11, 9554.	1.6	8
557	Radiation Effects in Advanced and Emerging Nonvolatile Memories. IEEE Transactions on Nuclear Science, 2021, 68, 546-572.	1.2	26
558	A domain wall-magnetic tunnel junction artificial synapse with notched geometry for accurate and efficient training of deep neural networks. Applied Physics Letters, 2021, 118, .	1.5	30
559	Ultrafast Nanoscale Gradient Junction Selfâ€Powered Schottky Photodetectors for Visionâ€Like Object Classification. Advanced Optical Materials, 2021, 9, 2100208.	3.6	4
560	Electrochemical ion insertion from the atomic to the device scale. Nature Reviews Materials, 2021, 6, 847-867.	23.3	84
561	Engineered nanoparticle network models for autonomous computing. Journal of Chemical Physics, 2021, 154, 214702.	1.2	5
562	On-Chip Integrated Photonic Devices Based on Phase Change Materials. Photonics, 2021, 8, 205.	0.9	21
563	Improvement of Synaptic Properties in Oxygenâ€Based Synaptic Transistors Due to the Accelerated Ion Migration in Subâ€Stoichiometric Channels. Advanced Electronic Materials, 2021, 7, 2100219.	2.6	24

#	Article	IF	CITATIONS
564	IGZO/CsPbBr ₃ -Nanoparticles/IGZO Neuromorphic Phototransistors and Their Optoelectronic Coupling Applications. ACS Applied Materials & Interfaces, 2021, 13, 30165-30173.	4.0	25
565	Elucidating Ionic Programming Dynamics of Metalâ€Oxide Electrochemical Memory for Neuromorphic Computing. Advanced Electronic Materials, 2021, 7, 2100185.	2.6	20
566	Ultrahighâ€Gain Organic Electrochemical Transistor Chemosensors Based on Selfâ€Curled Nanomembranes. Advanced Materials, 2021, 33, e2101518.	11.1	25
567	Multimodal Tuning of Synaptic Plasticity Using Persistent Luminescent Memitters. Advanced Materials, 2022, 34, e2101895.	11.1	31
568	HfO ₂ -based Ferroelectric Field-Effect-Transistor with Large Memory Window and Good Synaptic Behavior. ECS Journal of Solid State Science and Technology, 2021, 10, 065012.	0.9	10
569	Recent progress on 2D materials-based artificial synapses. Critical Reviews in Solid State and Materials Sciences, 2022, 47, 665-690.	6.8	11
570	Device Engineering in Organic Electrochemical Transistors toward Multifunctional Applications. ACS Applied Electronic Materials, 2021, 3, 2434-2448.	2.0	16
571	Transfer Learning-Based Artificial Intelligence-Integrated Physical Modeling to Enable Failure Analysis for 3 Nanometer and Smaller Silicon-Based CMOS Transistors. ACS Applied Nano Materials, 2021, 4, 6903-6915.	2.4	25
572	The Role of the Internal Capacitance in Organic Memristive Device for Neuromorphic and Sensing Applications. Advanced Electronic Materials, 2021, 7, 2100494.	2.6	14
573	Lowâ€Voltage Electrochemical Li _{<i>x</i>} WO ₃ Synapses with Temporal Dynamics for Spiking Neural Networks. Advanced Intelligent Systems, 2021, 3, 2100021.	3.3	9
574	Substrate-morphology driven tunable nanoscale artificial synapse. Journal of Asian Ceramic Societies, 2021, 9, 1137-1146.	1.0	2
575	Flexible Vertical Photogating Transistor Network with an Ultrashort Channel for Inâ€Sensor Visual Nociceptor. Advanced Functional Materials, 2021, 31, 2104327.	7.8	85
576	Low Power MoS ₂ /Nb ₂ O ₅ Memtransistor Device with Highly Reliable Heterosynaptic Plasticity. Advanced Functional Materials, 2021, 31, 2104174.	7.8	33
577	Organic Electrochemical Transistor Commonâ€6ource Amplifier for Electrophysiological Measurements. Advanced Functional Materials, 2021, 31, 2103385.	7.8	9
578	Neuromorphic Devices for Bionic Sensing and Perception. Frontiers in Neuroscience, 2021, 15, 690950.	1.4	20
579	Photoactive Electroâ€Controlled Visual Perception Memory for Emulating Synaptic Metaplasticity and Hebbian Learning. Advanced Functional Materials, 2021, 31, 2105345.	7.8	18
580	Assessing the Donor–Acceptor Nature and the Electrochemical Stability of a Fluorene–Diketopyrrolopyrrole–Thiophene-Based Copolymer. ACS Applied Polymer Materials, 2021, 3, 4223-4233.	2.0	8
581	Reconfigurable MoS ₂ Memtransistors for Continuous Learning in Spiking Neural Networks. Nano Letters, 2021, 21, 6432-6440.	4.5	33

#	Article	IF	CITATIONS
582	Singleâ€Component CMOSâ€Like Logic using Diketopyrrolopyrroleâ€Based Ambipolar Organic Electrochemical Transistors. Advanced Functional Materials, 2021, 31, 2102903.	7.8	38
583	Artificial synaptic behavior of the SBT-memristor*. Chinese Physics B, 2021, 30, 078401.	0.7	12
584	Artificial Intelligence in Chemistry: Current Trends and Future Directions. Journal of Chemical Information and Modeling, 2021, 61, 3197-3212.	2.5	80
585	Bandâ€tailored van der Waals heterostructure for multilevel memory and artificial synapse. InformaÄnÃ- Materiály, 2021, 3, 917-928.	8.5	59
586	Graphene Photo Memtransistor Based on CMOS Flash Memory Technology with Neuromorphic Applications. ACS Photonics, 2021, 8, 2659-2665.	3.2	8
587	Organic Memory and Memristors: From Mechanisms, Materials to Devices. Advanced Electronic Materials, 2021, 7, 2100432.	2.6	81
588	Dualâ€Mode Learning of Ambipolar Synaptic Phototransistor Based on 2D Perovskite/Organic Heterojunction for Flexible Color Recognizable Visual System. Small, 2021, 17, e2102820.	5.2	66
589	CMOS-Compatible Protonic Programmable Resistor Based on Phosphosilicate Glass Electrolyte for Analog Deep Learning. Nano Letters, 2021, 21, 6111-6116.	4.5	25
590	High Performance Ternary Organic Phototransistors with Photoresponse up to 2600 nm at Room Temperature. Advanced Functional Materials, 2021, 31, 2103787.	7.8	26
591	Light-Emitting Memristors for Optoelectronic Artificial Efferent Nerve. Nano Letters, 2021, 21, 6087-6094.	4.5	42
592	A Stacked Hybrid Organic/Inorganic Electrochemical Randomâ€Access Memory for Scalable Implementation. Advanced Electronic Materials, 2022, 8, 2100426.	2.6	7
593	Nanowire Architectures Improve Ion Uptake Kinetics in Conjugated Polymer Electrochemical Transistors. ACS Applied Materials & Interfaces, 2021, 13, 34616-34624.	4.0	16
594	Recent Advances in Flexible Organic Synaptic Transistors. Advanced Electronic Materials, 2021, 7, 2100336.	2.6	43
595	Materials Strategies for Organic Neuromorphic Devices. Annual Review of Materials Research, 2021, 51, 47-71.	4.3	33
596	Grainâ€Boundary Engineering of Monolayer MoS ₂ for Energyâ€Efficient Lateral Synaptic Devices. Advanced Materials, 2021, 33, e2102435.	11.1	53
597	Ion Pair Uptake in Ion Gel Devices Based on Organic Mixed Ionic–Electronic Conductors. Advanced Functional Materials, 2021, 31, 2104301.	7.8	35
598	Logic Elements and Neuron Networks. , 2022, , 101-122.		0
599	Ion Beam-Mediated Defect Engineering in TiO _{<i>x</i>} Thin Films for Controlled Resistive Switching Property and Application. ACS Applied Electronic Materials, 2021, 3, 3804-3814.	2.0	12

#	Article	IF	CITATIONS
600	Directed Growth of Dendritic Polymer Networks for Organic Electrochemical Transistors and Artificial Synapses. Advanced Electronic Materials, 2021, 7, 2100586.	2.6	29
601	Reservoir computing with biocompatible organic electrochemical networks for brain-inspired biosignal classification. Science Advances, 2021, 7, eabh0693.	4.7	72
602	Cu-ion-actuated three-terminal neuromorphic synaptic devices based on binary metal-oxide electrolyte and channel. Applied Physics Letters, 2021, 119, .	1.5	14
603	Nonlinear Behavior of Dendritic Polymer Networks for Reservoir Computing. Advanced Electronic Materials, 2022, 8, 2100330.	2.6	14
604	Fused Bithiophene Imide Dimerâ€Based nâ€Type Polymers for Highâ€Performance Organic Electrochemical Transistors. Angewandte Chemie - International Edition, 2021, 60, 24198-24205.	7.2	60
605	Fused Bithiophene Imide Dimerâ€Based nâ€Type Polymers for Highâ€Performance Organic Electrochemical Transistors. Angewandte Chemie, 2021, 133, 24400-24407.	1.6	14
606	High-Speed and Low-Power Superconducting Neuromorphic Circuits Based on Quantum Phase-Slip Junctions. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-8.	1.1	5
607	Neuromorphic bioelectronics based on semiconducting polymers. Journal of Polymer Science, 2022, 60, 348-376.	2.0	23
608	Multiplexed neurotransmission emulated for emotion control. Nano Energy, 2021, 86, 106038.	8.2	19
609	Analog Nanoscale Electro-Optical Synapses for Neuromorphic Computing Applications. ACS Nano, 2021, 15, 14776-14785.	7.3	35
610	UV light modulated synaptic behavior of MoTe ₂ /BN heterostructure. Nanotechnology, 2021, 32, 475207.	1.3	3
611	Materials Chemistry, Device Engineering, and Promising Applications of Polymer Transistors. Chemistry of Materials, 2021, 33, 7572-7594.	3.2	10
612	Polyampholytic Poly(AEMA <i>-co</i> -SPMA) Thin Films and Their Potential for Antifouling Applications. ACS Applied Polymer Materials, 2021, 3, 5361-5372.	2.0	9
613	Stretchable and Stable Electrolyteâ€Gated Organic Electrochemical Transistor Synapse with a Nafion Membrane for Enhanced Synaptic Properties. Advanced Engineering Materials, 2022, 24, 2100918.	1.6	18
614	Inâ€Materio Reservoir Computing in a Sulfonated Polyaniline Network. Advanced Materials, 2021, 33, e2102688.	11.1	53
615	High-k polymer dielectrics with different cross-linked networks for nonvolatile transistor memory device. Organic Electronics, 2021, 96, 106222.	1.4	3
616	Mixed Ionic and Electronic Conduction in Small-Molecule Semiconductors. Chemical Reviews, 2022, 122, 4397-4419.	23.0	52
617	A flexible nickel phthalocyanine resistive random access memory with multi-level data storage capability. Journal of Materials Science and Technology, 2021, 86, 151-157.	5.6	18

		CITATION RE	PORT	
#	Article		IF	CITATIONS
618	A Bioinspired Stretchable Sensoryâ€Neuromorphic System. Advanced Materials, 2021,	33, e2104690.	11.1	67
619	Neuroâ€Receptor Mediated Synapse Device Based on Crumpled MXene Ti ₃ C ₂ T <i>_x</i> Nanosheets. Advanced Function 31, 2104304.	nal Materials, 2021,	7.8	14
620	An Artificial Mechanoâ€Nociceptor with Mott Transition. Small Methods, 2021, 5, e210	00566.	4.6	8
621	Turning water into a protonic diode and solar cell via doping and dye sensitization. Joul 2380-2394.	e, 2021, 5,	11.7	9
622	Dual-liquid-gated electrochemical transistor and its neuromorphic behaviors. Nano Ene 106116.	rgy, 2021, 87,	8.2	21
623	Short-Term Facilitation-Then-Depression Enables Adaptive Processing of Sensory Inputs Channels in Biomolecular Synapses. ACS Applied Electronic Materials, 2021, 3, 4448-4-	s by Ion 458.	2.0	5
624	Organic electrochemical transistors in bioelectronic circuits. Biosensors and Bioelectro 190, 113461.	nics, 2021,	5.3	63
625	Learning from the brain's architecture: bioinspired strategies towards implantable i Current Opinion in Biotechnology, 2021, 72, 8-12.	neural interfaces.	3.3	2
626	Demonstration of synaptic and resistive switching characteristics in W/TiO2/HfO2/TaN memristor crossbar array for bioinspired neuromorphic computing. Journal of Materials Science and Technology, 2022, 96, 94-102.		5.6	56
627	An analogue memristor made of silk fibroin polymer. Journal of Materials Chemistry C, 2 14583-14588.	2021, 9,	2.7	22
628	Melanin thin-films: a perspective on optical and electrical properties. Journal of Materia C, 2021, 9, 8345-8358.	ls Chemistry	2.7	21
629	An air-stable artificial synapse based on a lead-free double perovskite Cs ₂ AgBiBr ₆ film for neuromorphic computing. Journal of Ma Chemistry C, 2021, 9, 5706-5712.	terials	2.7	56
630	Engineering donor–acceptor conjugated polymers for high-performance and fast-res electrochemical transistors. Journal of Materials Chemistry C, 2021, 9, 4927-4934.	ponse organic	2.7	54
631	Transparent HfO x -based memristor with robust flexibility and synapse characteristics control of oxygen vacancies movement. Nanotechnology, 2021, 32, 145202.	by interfacial	1.3	15
632	Flexible Artificial Memristive Synapse Constructed from Solutionâ€Processed MgO–(Quantum Dot Hybrid Films. Advanced Electronic Materials, 2021, 7, 2000882.	Graphene Oxide	2.6	15
633	Emulation of Synaptic Scaling Based on MoS ₂ Neuristor for Selfâ€Adapta Computing. Advanced Electronic Materials, 2021, 7, 2001104.	tive Neuromorphic	2.6	3
634	Low-power consumption light-stimulated synaptic transistors based on natural caroter semiconductors. Chemical Communications, 2021, 57, 8300-8303.	ie and organic	2.2	22
635	Interfacing cells with organic transistors: a review of <i>in vitro</i> and <i>in vivo</i> app Lab on A Chip, 2021, 21, 795-820.	blications.	3.1	37

#	Article	IF	CITATIONS
636	Dielectric materials for electrolyte gated transistor applications. Journal of Materials Chemistry C, 2021, 9, 9348-9376.	2.7	36
637	Exploiting multiple percolation in two-terminal memristor to achieve a multitude of resistive states. Journal of Materials Chemistry C, 2021, 9, 8975-8986.	2.7	7
638	Advances in materials and devices for mimicking sensory adaptation. Materials Horizons, 2022, 9, 147-163.	6.4	14
639	The Effect of Alkyl Spacers on the Mixed Ionicâ€Electronic Conduction Properties of Nâ€Type Polymers. Advanced Functional Materials, 2021, 31, 2008718.	7.8	67
640	Bio-memristors based on silk fibroin. Materials Horizons, 2021, 8, 3281-3294.	6.4	25
641	Recent progress in artificial synaptic devices: materials, processing and applications. Journal of Materials Chemistry C, 2021, 9, 8372-8394.	2.7	41
642	Reconfigurable Logicâ€inâ€Memory and Multilingual Artificial Synapses Based on 2D Heterostructures. Advanced Functional Materials, 2020, 30, 1909645.	7.8	92
643	Deep Proton Insertion Assisted by Oxygen Vacancies for Longâ€Term Memory in VO ₂ Synaptic Transistor. Advanced Electronic Materials, 2021, 7, 2000802.	2.6	20
644	Artificial Neural Networks Based on Memristive Devices: From Device to System. Advanced Intelligent Systems, 2020, 2, 2000149.	3.3	39
645	Associative Enhancement and Its Application in Memristor Based Neuromorphic Devices. , 2019, , 555-570.		1
646	Mixed Ion-Carrier Diffusion in Poly(3-hexyl thiophene)/Perchlorate Electrochemical Systems. Journal of Physical Chemistry C, 2021, 125, 536-545.	1.5	8
647	Large-Scale and Flexible Optical Synapses for Neuromorphic Computing and Integrated Visible Information Sensing Memory Processing. ACS Nano, 2021, 15, 1497-1508.	7.3	210
648	Intrinsic plasticity of silicon nanowire neurotransistors for dynamic memory and learning functions. Nature Electronics, 2020, 3, 398-408.	13.1	37
649	Flexible conductive blend of natural rubber latex with PEDOT:PSS. APL Materials, 2020, 8, 121107.	2.2	13
650	An organic synaptic transistor with Nafion electrolyte. Journal Physics D: Applied Physics, 2020, 53, 485102.	1.3	7
651	Organic electronics Axon-Hillock neuromorphic circuit: towards biologically compatible, and physically flexible, integrate-and-fire spiking neural networks. Journal Physics D: Applied Physics, 2021, 54, 104004.	1.3	16
652	Review of resistive switching mechanisms for memristive neuromorphic devices*. Chinese Physics B, 2020, 29, 097305.	0.7	18
653	TaOx synapse array based on ion profile engineering for high accuracy neuromorpic computing. , 2020,		1

#	Article	IF	CITATIONS
654	Review—A Review of Advanced Electronic Applications Based on Carbon Nanomaterials. ECS Journal of Solid State Science and Technology, 2020, 9, 071002.	0.9	7
655	A Photoelectric-Stimulated MoS ₂ Transistor for Neuromorphic Engineering. Research, 2019, 2019, 1618798.	2.8	27
656	Perovskite-Enhanced Silicon-Nanocrystal Optoelectronic Synaptic Devices for the Simulation of Biased and Correlated Random-Walk Learning. Research, 2020, 2020, 7538450.	2.8	14
657	Timing Selector: Using Transient Switching Dynamics to Solve the Sneak Path Issue of Crossbar Arrays. Small Science, 2022, 2, 2100072.	5.8	18
658	Ionic Sieving Through Oneâ€Atomâ€Thick 2D Material Enables Analog Nonvolatile Memory for Neuromorphic Computing. Small, 2021, 17, e2103543.	5.2	31
659	Phase change of Ge2Sb2Te5 under terahertz laser illumination. APL Materials, 2021, 9, .	2.2	8
660	Implantable Organic Artificial Synapses Exhibiting Crossover between Depressive and Facilitative Plasticity Response. Advanced Electronic Materials, 0, , 2100755.	2.6	5
661	Sequential Codoping Making Nonconjugated Organic Radicals Conduct Ionically Electronically. Small Science, 2022, 2, .	5.8	3
662	Electrolyte-gated transistors for enhanced performance bioelectronics. Nature Reviews Methods Primers, 2021, 1, .	11.8	172
663	High Conductance Margin for Efficient Neuromorphic Computing Enabled by Stacking Nonvolatile van der Waals Transistors. Physical Review Applied, 2021, 16, .	1.5	8
664	Organic Electrochemical Transistors for In Vivo Bioelectronics. Advanced Materials, 2021, 33, e2101874.	11.1	78
665	Ferroelectric P(VDF-TrFE) wrapped InGaAs nanowires for ultralow-power artificial synapses. Nano Energy, 2022, 91, 106654.	8.2	41
666	Influence of Molecular Weight on the Organic Electrochemical Transistor Performance of Ladderâ€Type Conjugated Polymers. Advanced Materials, 2022, 34, e2106235.	11.1	86
667	Biomaterialâ€Based Solidâ€Electrolyte Organic Electrochemical Transistors for Electronic and Neuromorphic Applications. Advanced Electronic Materials, 2021, 7, 2100519.	2.6	14
668	Printed Memtransistor Utilizing a Hybrid Perovskite/Organic Heterojunction Channel. ACS Applied Materials & Interfaces, 2021, 13, 51592-51601.	4.0	9
669	Science and Technological Understanding of Nano-ionic Resistive Memories (RRAM). Nanoscience and Nanotechnology - Asia, 2019, 9, 444-461.	0.3	0
670	Dendritic Organic Electrochemical Transistors Grown by Electropolymerization for 3D Neuromorphic Engineering. Advanced Science, 2021, 8, e2102973.	5.6	22
671	Boolean and Elementary Algebra with a Rollâ€Toâ€Roll Printed Electrochemical Memristor. Advanced Materials Technologies, 2022, 7, 2101108.	3.0	4

#	Article	IF	CITATIONS
672	Pulse Programming of Resistive States of BTBTâ€Based Organic Memristive Device with High Endurance. Physica Status Solidi - Rapid Research Letters, 0, , 2100471.	1.2	2
673	Artificial Synapse Based on a 2D-SnO ₂ Memtransistor with Dynamically Tunable Analog Switching for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2021, 13, 52822-52832.	4.0	47
674	Enabling Distributed Intelligence with Ferroelectric Multifunctionalities. Advanced Science, 2022, 9, e2103842.	5.6	15
675	Simulation Framework for Performance Evaluation of HfZrOx Based Ferroelectric Synaptic Devices. , 2020, , .		0
676	A Fully Self-Doped Electrochromic Conjugated Polymer Device Towards Neuromorphic Applications. , 2021, , .		0
677	Two-terminal organic optoelectronic synapse based on poly(3-hexylthiophene) for neuromorphic computing. Organic Electronics, 2022, 100, 106390.	1.4	10
678	Molecular packing and film morphology control in organic electrochemical transistors. Molecular Systems Design and Engineering, 2022, 7, 6-20.	1.7	12
679	Сравнение полиÑ,иоÑ,,еновых мемриÑÑ,орных Ñ∱ÑÑ,İ	Ń€Đ3,∕cĐ¹Ñ¥	Ñ,Ðᡗ², Ð,Ð∙Ð ³ €
680	Design Flow for Hybrid CMOS/Memristor Systems—Part I: Modeling and Verification Steps. IEEE Transactions on Circuits and Systems I: Regular Papers, 2021, 68, 4862-4875.	3.5	9
682	Dissecting Biological and Synthetic Soft–Hard Interfaces for Tissue-Like Systems. Chemical Reviews, 2022, 122, 5233-5276.	23.0	32
683	The Road for 2D Semiconductors in the Silicon Age. Advanced Materials, 2022, 34, e2106886.	11.1	57
684	Toward Learning in Neuromorphic Circuits Based on Quantum Phase Slip Junctions. Frontiers in Neuroscience, 2021, 15, 765883.	1.4	4
685	A biodegradable artificial synapse implemented by foundry-compatible materials. Applied Physics Letters, 2020, 117, 192105.	1.5	1
686	Understanding, quantifying, and controlling the molecular ordering of semiconducting polymers: from novices to experts and amorphous to perfect crystals. Materials Horizons, 2022, 9, 577-606.	6.4	117
687	2D Material Memristor Devices for Neuromorphic Computing. , 2021, , .		2
688	Electrolyte-gated neuromorphic transistors for brain-like dynamic computing. Journal of Applied Physics, 2021, 130, .	1.1	30
689	Enhanced Memristive Performance of Double Perovskite Cs ₂ AgBiBr _{6â€<i>x</i>} Cl _{<i>x</i>} Devices by Chloride Doping. ChemPlusChem, 2021, 86, 1530-1536.	1.3	6
690	Analog programing of conducting-polymer dendritic interconnections and control of their morphology. Nature Communications, 2021, 12, 6898.	5.8	11

#	Article		CITATIONS
691	High‧peed Ionic Synaptic Memory Based on 2D Titanium Carbide MXene. Advanced Functional Materials, 2022, 32, 2109970.	7.8	33
692	Resistive Memory Devices Based on Reticular Materials for Electrical Information Storage. ACS Applied Materials & Interfaces, 2021, 13, 56777-56792.	4.0	19
693	A strategy towards melanin-based functional material: rGO and sulfonated melanin composites. Journal of Materials Chemistry C, 2021, 9, 16991-17002.	2.7	8
694	Reliability-Driven Memristive Crossbar Design in Neuromorphic Computing Systems. IEEE Transactions on Automation Science and Engineering, 2023, 20, 74-87.	3.4	1
695	Polymerâ€Based Composites for Engineering Organic Memristive Devices. Advanced Electronic Materials, 0, , 2101192.	2.6	2
696	Electrolyte-gated transistors with good retention for neuromorphic computing. Applied Physics Letters, 2022, 120, .	1.5	11
697	A PEDOT:PSS conductive hydrogel incorporated with Prussian blue nanoparticles for wearable and noninvasive monitoring of glucose. Chemical Engineering Journal, 2022, 431, 134109.	6.6	49
698	A Spiking Neuromorphic Architecture Using Gated-RRAM for Associative Memory. ACM Journal on Emerging Technologies in Computing Systems, 2022, 18, 1-22.	1.8	0
699	Organic Electrochemical Transistors: An Emerging Technology for Biosensing. Advanced Materials Interfaces, 2022, 9, .	1.9	70
700	Correlation between Transient Response and Neuromorphic Behavior in Organic Electrochemical Transistors. Advanced Electronic Materials, 2022, 8, .	2.6	11
701	Programmable Terahertz Metamaterials with Nonâ€Volatile Memory. Laser and Photonics Reviews, 2022, 16, .	4.4	37
702	2022 roadmap on neuromorphic computing and engineering. Neuromorphic Computing and Engineering, 2022, 2, 022501.	2.8	217
703	Analyzing the Impact of Memristor Variability on Crossbar Implementation of Regression Algorithms With Smart Weight Update Pulsing Techniques. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 2025-2034.	3.5	8
704	Donor-acceptor-type poly[chalcogenoviologen-alt-triphenylamine] for synaptic biomimicking and neuromorphic computing. IScience, 2022, 25, 103640.	1.9	8
705	Photopatternable solid electrolyte for integrable organic electrochemical transistors: operation and hysteresis. Journal of Materials Chemistry C, 2022, 10, 2656-2662.	2.7	23
706	Nanoscopic Electrolyte-Gated Vertical Organic Transistors with Low Operation Voltage and Five Orders of Magnitude Switching Range for Neuromorphic Systems. Nano Letters, 2022, 22, 973-978.	4.5	27
707	Green Synthesis of Lactoneâ€Based Conjugated Polymers for nâ€Type Organic Electrochemical Transistors. Advanced Functional Materials, 2022, 32, .	7.8	45
708	Ultralow Power Consumption and Large Dynamic Range Synaptic Transistor Based on α-In ₂ Se ₃ Nanosheets. ACS Applied Electronic Materials, 2022, 4, 598-605.	2.0	18

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#	Article		CITATIONS
709	Riskâ€Perceptional and Feedbackâ€Controlled Response System Based on NO ₂ â€Detecting Artificial Sensory Synapse. Advanced Functional Materials, 2022, 32, .	7.8	8
710	All-solid-state proton-based tandem structures for fast-switching electrochromic devices. Nature Electronics, 2022, 5, 45-52.	13.1	111
711	High-uniformity Memristor Arrays Based on Two-dimensional MoTe ₂ for Neuromorphic Computing. Wuji Cailiao Xuebao/Journal of Inorganic Materials, 2022, 37, 795.	0.6	6
712	Revealing the Role of Polaron Distribution on the Performance of n-Type Organic Electrochemical Transistors. Chemistry of Materials, 2022, 34, 864-872.	3.2	23
713	Versatile memristor for memory and neuromorphic computing. Nanoscale Horizons, 2022, 7, 299-310.	4.1	38
714	Lightâ€Stimulated Synaptic Transistor with High PPF Feature for Artificial Visual Perception System Application. Advanced Functional Materials, 2022, 32, .	7.8	71
715	Mnemonic-opto-synaptic transistor for in-sensor vision system. Scientific Reports, 2022, 12, 1818.	1.6	3
716	Study of memristive devices on the base of siloxane quatrothiophene dimer. AIP Conference Proceedings, 2022, , .	0.3	0
717	Reconfigurable perovskite nickelate electronics for artificial intelligence. Science, 2022, 375, 533-539.	6.0	93
718	Dual-Ferroelectric-Coupling-Engineered Two-Dimensional Transistors for Multifunctional In-Memory Computing. ACS Nano, 2022, 16, 3362-3372.	7.3	51
719	Photonic and optoelectronic neuromorphic computing. APL Photonics, 2022, 7, .	3.0	22
720	In-depth analysis on electrical parameters of floating gate IGZO synaptic transistor affecting pattern recognition accuracy. Nanotechnology, 2022, 33, 215201.	1.3	8
721	Analog ferroelectric domain-wall memories and synaptic devices integrated with Si substrates. Nano Research, 2022, 15, 3606-3613.	5.8	26
722	Molecular Design Strategies toward Improvement of Charge Injection and Ionic Conduction in Organic Mixed Ionic–Electronic Conductors for Organic Electrochemical Transistors. Chemical Reviews, 2022, 122, 4325-4355.	23.0	100
723	Organic neuromorphic electronics for sensorimotor integration and learning in robotics. Science Advances, 2021, 7, eabl5068.	4.7	54
724	Research Progress on Memristor: From Synapses to Computing Systems. IEEE Transactions on Circuits and Systems I: Regular Papers, 2022, 69, 1845-1857.	3.5	44
725	Water-induced dual ultrahigh mobilities over 400 cm ² V ^{â^'1} s ^{â^'1} in 2D MoS ₂ transistors for ultralow-voltage operation and photoelectric synapse perception. Journal of Materials Chemistry C, 2022, 10, 5249-5256.	2.7	6
726	Influence of the molecular weight and size distribution of PSS on mixed ionic-electronic transport in PEDOT:PSS. Polymer Chemistry, 2022, 13, 2764-2775.	1.9	27

#	Article	IF	Citations
727	Emulating the short-term plasticity of a biological synapse with a ruthenium complex-based organic mixed ionic–electronic conductor. Materials Advances, 2022, 3, 2827-2837.	2.6	6
728	Organic electrochemical neurons and synapses with ion mediated spiking. Nature Communications, 2022, 13, 901.	5.8	110
729	Bioâ€Inspired 3D Artificial Neuromorphic Circuits. Advanced Functional Materials, 2022, 32, .	7.8	45
730	Utilizing an SWCNT-TFT "Electronic Hourglass―for Artificial Synapse Application. ACS Applied Electronic Materials, 2022, 4, 974-981.	2.0	2
731	Coupled Ionic–Electronic Charge Transport in Organic Neuromorphic Devices. Advanced Theory and Simulations, 0, , 2100492.	1.3	5
732	Allâ€Solidâ€State Vertical Threeâ€Terminal Nâ€Type Organic Synaptic Devices for Neuromorphic Computing. Advanced Functional Materials, 2022, 32, .	7.8	28
733	High-stability conducting polymer-based conformal electrodes for bio-/iono-electronics. Materials Today, 2022, 53, 84-97.	8.3	19
734	Stochastic Resonance in Organic Electronic Devices. Polymers, 2022, 14, 747.	2.0	4
735	Poly(3,4â€ethylenedioxythiophene)â€Based Neural Interfaces for Recording and Stimulation: Fundamental Aspects and In Vivo Applications. Advanced Science, 2022, 9, e2104701.	5.6	32
736	Sustainable Macromolecular Materials in Flexible Electronics. Macromolecular Materials and Engineering, 2022, 307, .	1.7	4
737	Flexible synaptic floating gate devices with dual electrical modulation based on ambipolar black phosphorus. IScience, 2022, 25, 103947.	1.9	3
738	Emulation of synaptic functions with low voltage organic memtransistor for hardware oriented neuromorphic computing. Scientific Reports, 2022, 12, 3808.	1.6	23
739	Enhancing the Ionic Conductivity of Poly(3,4-propylenedioxythiophenes) with Oligoether Side Chains for Use as Conductive Cathode Binders in Lithium-Ion Batteries. Chemistry of Materials, 2022, 34, 2672-2686.	3.2	23
740	A Multipleâ€State Ion Synaptic Transistor Applicable to Abnormal Car Detection with Transfer Learning. Advanced Intelligent Systems, 0, , 2100231.	3.3	1
741	Ion-Driven Electrochemical Random-Access Memory-Based Synaptic Devices for Neuromorphic Computing Systems: A Mini-Review. Micromachines, 2022, 13, 453.	1.4	7
742	Nanoâ€Memristors with 4ÂmVÂSwitching Voltage Based on Surfaceâ€Modified Copper Nanoparticles. Advanced Materials, 2022, 34, e2201197.	11.1	10
743	Analog synaptic behavior of mobile ion source-limited electrochemical RAM using CuOx oxide electrode for deep learning accelerator. Applied Physics Letters, 2022, 120, .	1.5	8
744	Adaptive Biosensing and Neuromorphic Classification Based on an Ambipolar Organic Mixed Ionic–Electronic Conductor. Advanced Materials, 2022, 34, e2200393.	11.1	27

ARTICLE IF CITATIONS # Dualâ€Mode Organic Electrochemical Transistors Based on Selfâ€Doped Conjugated Polyelectrolytes for 745 11.1 15 Reconfigurable Electronics. Advanced Materials, 2022, 34, e2200274. Interfacial Ionâ€Trapping Electrolyteâ€Gated Transistors for Highâ€Fidelity Neuromorphic Computing. 746 Advanced Functional Materials, 2022, 32, . Electrochemical Thinâ€Film Transistors using Covalent Organic Framework Channel. Advanced 747 7.8 16 Functional Materials, 2022, 32, . A Fully Solutionâ€Printed Photosynaptic Transistor Array with Ultralow Energy Consumption for 748 11.1 Artificialâ€Vision Neural Networks. Advanced Materials, 2022, 34, e2200380. A Bioinspired Artificial Injury Response System Based on a Robust Polymer Memristor to Mimic a Sense 749 5.6 34 of Pain, Sign of Injury, and Healing. Advanced Science, 2022, 9, e2200629. Supported Lipid Bilayers Coupled to Organic Neuromorphic Devices Modulate Shortâ€Term Plasticity in Biomimetic Synapses. Advanced Materials, 2022, 34, e2110194. 11.1 A hybrid ambipolar synaptic transistor emulating multiplexed neurotransmission for motivation 751 4.8 12 control and experience-dependent learning. Chinese Chemical Letters, 2023, 34, 107292. A Semiconducting Twoâ€Dimensional Polymer as an Organic Electrochemical Transistor Active Layer. 11.1 19 Advanced Materials, 2022, 34, e2110703. Recent progress of fiber-based transistors: materials, structures and applications. Frontiers of 753 1.9 10 Optoelectronics, 2022, 15, 1. Strategies to Improve the Synaptic Characteristics of Oxygen-Based Electrochemical Random-Access Memory Based on Material Parameters Optimization. ACS Applied Materials & amp; Interfaces, 2022, 14, 754 14 13450-13457. Improved Synaptic Characteristics of Oxide-Based Electrochemical Random Access Memory at Elevated Temperatures Using Integrated Micro-Heater. IEEE Transactions on Electron Devices, 2022, 69, 755 10 1.6 2218-2221. Ultralowâ€Power and Multisensory Artificial Synapse Based on Electrolyteâ€Gated Vertical Organic 38 Transistors. Advanced Functional Materials, 2022, 32, . Ultrahighâ€Speed Inâ€Memory Electronics Enabled by Proximityâ€Oxidationâ€Evolved Metal Oxide Redox 757 11.1 5 Transistors. Advanced Materials, 2022, 34, e2200122. Dropout neuronal unit with tunable probability based on NbOx stochastic memristor for efficient suppression of overfitting. Microelectronic Engineering, 2022, 259, 111778. 1.1 Highâ€Performance Organic Electrochemical Transistors and Neuromorphic Devices Comprising Naphthalenediimideâ€Dialkoxybithiazole Copolymers Bearing Glycol Ether Pendant Group's. Advanced 759 33 7.8 Functional Materials, 2022, 32, . Pushing OECTs toward Wearable:†Development of a Miniaturized Analytical Control Unit for Wireless 3.2 Device Characterization. Analytical Chemistry, 2022, 94, 6156-6162. Preparation of Smart Surfaces Based on PNaSS@PEDOT Microspheres: Testing of E. coli Detection. 761 2.16 Sensors, 2022, 22, 2784. Dye-sensitized perovskite/organic semiconductor ternary transistors for artificial synapses. Science China Materials, 2022, 65, 2521-2528.

#	Article	IF	CITATIONS
763	Transparent Optoelectronic Synapse Based on a Cul Electrode for Arithmetic Operation. ACS Applied Electronic Materials, 2022, 4, 1989-1996.	2.0	1
764	Chemically dedoped PEDOT:PSS films with an amidine/polymer overcoating and their applications as a semiconducting channel in organic field-effect transistors and inverters. Materials Chemistry and Physics, 2022, 284, 126062.	2.0	4
765	Domain wall memory: Physics, materials, and devices. Physics Reports, 2022, 958, 1-35.	10.3	56
766	Improved solid interfacial kinetics and electrochemical performance for LiCoO2(1 1 0) textured thin-film lithium batteries. Applied Surface Science, 2022, 591, 153174.	3.1	7
767	Dynamic resistive switching devices for neuromorphic computing. Semiconductor Science and Technology, 2022, 37, 024003.	1.0	12
768	Analysis of the Thermal Degradation Effect on a HfO ₂ -Based Memristor Synapse Caused by Oxygen Affinity of a Top Electrode Metal and on a Neuromorphic System. ACS Applied Electronic Materials, 2021, 3, 5584-5591.	2.0	8
769	Monolayer MoS ₂ Synaptic Transistors for High-Temperature Neuromorphic Applications. Nano Letters, 2021, 21, 10400-10408.	4.5	41
770	Tunable Chargeâ€Density PEDOT:PSS for Application in Postâ€Synaptic Organic Neuromorphic Electrodes. Advanced Electronic Materials, 2022, 8, .	2.6	3
771	How <scp>sideâ€chain</scp> hydrophilicity modulates morphology and charge transport in mixed conducting polymers. Journal of Polymer Science, 2022, 60, 610-620.	2.0	14
772	Physical based compact model of Y-Flash memristor for neuromorphic computation. Applied Physics Letters, 2021, 119, 263504.	1.5	8
773	Organic Synaptic Diodes Based on Polymeric Mixed Ionicâ€Electronic Conductors. Advanced Electronic Materials, 2022, 8, .	2.6	3
774	Progress in Synthesis of Conductive Polymer Poly(3,4-Ethylenedioxythiophene). Frontiers in Chemistry, 2021, 9, 803509.	1.8	32
775	Applying Neuromorphic Computing Simulation in Band Gap Prediction and Chemical Reaction Classification. ACS Omega, 2022, 7, 168-175.	1.6	2
776	Asymmetric electrode geometry induced photovoltaic behavior for self-powered organic artificial synapses. Flexible and Printed Electronics, 2021, 6, 044009.	1.5	2
777	Photoelectroactive artificial synapse and its application to biosignal pattern recognition. Npj 2D Materials and Applications, 2021, 5, .	3.9	17
778	Fluoropolymer-based organic memristor with multifunctionality for flexible neural network system. Npj Flexible Electronics, 2021, 5, .	5.1	40
779	Flexible Mott Synaptic Transistor on Polyimide Substrate for Physical Neural Networks. Advanced Electronic Materials, 2022, 8, .	2.6	6
780	Cyanoâ€Functionalized nâ€Type Polymer with High Electron Mobility for Highâ€Performance Organic Electrochemical Transistors. Advanced Materials, 2022, 34, e2201340.	11.1	54

ARTICLE IF CITATIONS # Investigation of resistive switching in lead-free bismuthâ€"silver halide double perovskite. 781 1.0 2 Semiconductor Science and Technology, 2022, 37, 065011. Organic electrochemical transistors toward synaptic electronics. Journal Physics D: Applied Physics, 1.3 2022, 55, 304006. Dynamic Model of the Short-Term Synaptic Behaviors of PEDOT-based Organic Electrochemical 783 7 1.6 Transistors with Modified Shockley Equations. ACS Omega, 2022, 7, 14622-14629. Photomemristive sensing <i>via</i> charge storage in 2D carbon nitrides. Materials Horizons, 2022, 9, 6.4 1866-1877. A flexible dual-gate hetero-synaptic transistor for spatiotemporal information processing. Nanoscale 786 2.2 13 Advances, 2022, 4, 2412-2419. Artificial Neuron Synaptic Realization of One Device with Transparent and Environmentally Friendly Materials. Journal of Physical Chemistry C, 2022, 126, 7791-7798. 1.5 Robust and Highly Conductive PEDOT:PSS:Ag Nanowires/Polyethyleneimine Multilayers Based on Ionic Layer-by-Layer Assembly for E-Textiles and 3D Electronics. ACS Applied Electronic Materials, 2022, 4, 788 2.0 3 2413-2423. A light-emitting electrochemical artificial synapse with dual output of photoelectric signals. Science 3.5 China Materials, 2022, 65, 2511-2520. High Performance Full-Inorganic Flexible Memristor with Combined Resistance-Switching. ACS Applied 790 4.0 21 Materials & amp; Interfaces, 2022, 14, 21173-21180. Implementing in-situ self-organizing maps with memristor crossbar arrays for data mining and 791 5.8 optimization. Nature Communications, 2022, 13, 2289. Reconfigurable Artificial Synapses with Excitatory and Inhibitory Response Enabled by an Ambipolar 792 9 4.0Oxide Thin-Film Transistor. ACS Applied Materials & amp; Interfaces, 2022, 14, 22252-22262. Spin–orbit torque driven nano-oscillators based on synthetic Néel-like skyrmion in magnetic tunnel 793 junction. AIP Advances, 2022, 12, 055013. Solidâ€State Iontronic Devices: Mechanisms and Applications. Advanced Materials Technologies, 2022, 7, 794 3.0 17 Factors that control stability, variability, and reliability issues of endurance cycle in ReRAM devices: A phase field study. Journal of Applied Physics, 2022, 131, . 795 1.1 Integrated Memory Devices Based on 2D Materials. Advanced Materials, 2022, 34, e2201880. 796 11.1 33 Advances in perception-functionalized organic field-effect transistors. Scientia Sinica Chimica, 2022, 797 52, 1896-1912. Robust and Low-Power-Consumption Black Phosphorusâ€"Graphene Artificial Synaptic Devices. ACS 798 4.0 11 Applied Materials & amp; Interfaces, 2022, 14, 21242-21252. Flexible VO₂ Films for Inâ€Sensor Computing with Ultraviolet Light. Advanced Functional 799 Materials, 2022, 32, .

#	Article	IF	CITATIONS
800	Exploring the crucial influence on the electrical rectification of ZnO films. Surfaces and Interfaces, 2022, 31, 102014.	1.5	0
801	Synaptic transistors based on transparent oxide for neural image recognition. Solid-State Electronics, 2022, 194, 108342.	0.8	1
802	Polymer synaptic transistors from memory to neuromorphic computing. Materials Chemistry and Physics, 2022, 287, 126263.	2.0	7
803	Fastâ€Scanning Potentialâ€Gated Organic Electrochemical Transistors for Highly Sensitive Sensing of Dopamine in Living Rat Brain. Angewandte Chemie - International Edition, 2022, 61, .	7.2	25
804	Artificial Neural Pathway Based on a Memristor Synapse for Optically Mediated Motion Learning. ACS Nano, 2022, 16, 9691-9700.	7.3	47
805	Multifunctional neurosynaptic devices for human perception systems. Journal of Semiconductors, 2022, 43, 051201.	2.0	6
806	Fibrillary gelation and dedoping of PEDOT:PSS fibers for interdigitated organic electrochemical transistors and circuits. Npj Flexible Electronics, 2022, 6, .	5.1	20
807	Realization of Enhanced Longâ€Term Visual Memory for Indium–Gallium–Zinc Oxideâ€Based Optical Synaptic Transistor. Advanced Optical Materials, 2022, 10, .	3.6	9
808	Applications of Organic Electrochemical Transistors in Flexible Bioelectronics. , 2022, 1, 88-97.		6
809	MXene-based multifunctional smart fibers for wearable and portable electronics. Journal of Materials Chemistry A, 2022, 10, 12544-12550.	5.2	11
810	A brief review on device operations and working mechanisms of organic transistor photomemories. Journal of Materials Chemistry C, 2022, 10, 13462-13482.	2.7	11
811	Electrochemical Preparation of Porous Organic Polymer Films for Highâ€Performance Memristors. Angewandte Chemie - International Edition, 2022, 61, .	7.2	7
812	Ion-Movement-Based Synaptic Device for Brain-Inspired Computing. Nanomaterials, 2022, 12, 1728.	1.9	4
813	Physical Compact Model for Threeâ€Terminal SONOS Synaptic Circuit Element. Advanced Intelligent Systems, 2022, 4, .	3.3	2
814	Fastâ€Scanning Potentialâ€Gated Organic Electrochemical Transistors for Highly Sensitive Sensing of Dopamine in Living Rat Brain. Angewandte Chemie, 2022, 134, .	1.6	8
815	Artificial Neurons on Flexible Substrates: A Fully Printed Approach for Neuromorphic Sensing. Sensors, 2022, 22, 4000.	2.1	2
816	Bidirectionally Modulated Synaptic Plasticity with Optically Tunable Ionic Electrolyte Transistors. ACS Applied Electronic Materials, 2022, 4, 2629-2635.	2.0	6
817	Electrochemical Preparation of Porous Organic Polymer Films for Highâ€Performance Memristors. Angewandte Chemie, 0, , .	1.6	0

#	Article	IF	CITATIONS
818	Optically Encodable and Erasable Multilevel Nonvolatile Flexible Memory Device Based on Metal–Organic Frameworks. ACS Applied Materials & Interfaces, 2022, 14, 26895-26903.	4.0	7
819	Organic Optoelectronic Synaptic Devices for Energy-Efficient Neuromorphic Computing. IEEE Electron Device Letters, 2022, 43, 1089-1092.	2.2	14
820	Tunable and Reconfigurable Logic Gates With Electrolyte-Gated Transistor Array Co-Integrated With Neuromorphic Synapses. IEEE Transactions on Electron Devices, 2022, 69, 4231-4235.	1.6	2
822	Quasi-two-dimensional \hat{l}_{\pm} -molybdenum oxide thin film prepared by magnetron sputtering for neuromorphic computing. RSC Advances, 2022, 12, 17706-17714.	1.7	2
823	Organic Synaptic Transistors Based on a Hybrid Trapping Layer for Neuromorphic Computing. IEEE Electron Device Letters, 2022, 43, 1255-1258.	2.2	4
825	Highâ€Performance Neuromorphic Computing Based on Ferroelectric Synapses with Excellent Conductance Linearity and Symmetry. Advanced Functional Materials, 2022, 32, .	7.8	67
827	A Digital–Analog Integrated Memristor Based on a ZnO NPs/CuO NWs Heterostructure for Neuromorphic Computing. ACS Applied Electronic Materials, 2022, 4, 3525-3534.	2.0	18
828	Characterization of transmembrane transport across ionic redox transistors using surface-tracked scanning ion conductance microscopy. , 2022, , 100026.		0
829	Carbon Nanotube-Based Flexible Ferroelectric Synaptic Transistors for Neuromorphic Computing. ACS Applied Materials & Interfaces, 2022, 14, 30124-30132.	4.0	10
830	Responsive materials architected in space and time. Nature Reviews Materials, 2022, 7, 683-701.	23.3	80
831	Efficient Electronic Tunneling Governs Transport in Conducting Polymer-Insulator Blends. Journal of the American Chemical Society, 2022, 144, 10368-10376.	6.6	26
832	Integrate-and-Fire Neuron With Li-Based Electrochemical Random Access Memory Using Native Linear Current Integration Characteristics. IEEE Transactions on Electron Devices, 2022, 69, 4889-4893.	1.6	0
833	Neuromorphic Skin Based on Emerging Artificial Synapses. Advanced Materials Technologies, 2022, 7, .	3.0	11
834	Dynamic Switching and Energy Storage Unified by Electrochemical Ion Intercalation. Advanced Materials Technologies, 2023, 8, .	3.0	1
835	Novel <scp>Porphyrin ontaining</scp> Polymer Based Memristor for Synaptic Plasticity Simulation. Chinese Journal of Chemistry, 2022, 40, 2451-2456.	2.6	5
836	A Van Der Waals Photoâ€Ferroelectric Synapse. Advanced Electronic Materials, 2022, 8, .	2.6	5
837	Polydopamineâ€Based All Solidâ€State Flexible Organic Neuromorphic Devices for Access Deviceâ€Free Artificial Neural Networks. Advanced Electronic Materials, 2023, 9, .	2.6	3
838	2D Metal–Organic Framework Cu ₃ (HHTT) ₂ Films for Broadband Photodetectors from Ultraviolet to Midâ€Infrared. Advanced Materials, 2022, 34, .	11.1	16

		CITATION R	EPORT	
#	Article		IF	CITATIONS
839	Materials Discovery With Machine Learning and Knowledge Discovery. Frontiers in Chem	.istry, 0, 10, .	1.8	8
840	Organic Iono-Electronics, a New Front for Semiconducting Polymers to Shine. Accounts o Research, 2022, 3, 669-671.	of Materials	5.9	6
841	van der Waals Ferroelectric Halide Perovskite Artificial Synapse. Physical Review Applied,	2022, 18, .	1.5	3
842	Synaptic Segmented Transistor with Improved Linearity by Schottky Junctions and Accele Double-Layered Nitride. ACS Applied Materials & Interfaces, 2022, 14, 32261-32269	erated Speed by 9.	4.0	4
843	Hands-on reservoir computing: a tutorial for practical implementation. Neuromorphic Co Engineering, 2022, 2, 032002.	mputing and	2.8	41
844	lon transport to temperature and gate in organic electrochemical transistors with anti-fre hydrogel. Organic Electronics, 2022, 108, 106605.	eezing	1.4	1
845	Beyond CMOS. , 2021, , .			2
846	Donor Engineering Tuning the Analog Switching Range and Operational Stability of Orga Transistors for Neuromorphic Systems. Advanced Functional Materials, 2022, 32, .	nic Synaptic	7.8	23
847	High current hydrogels: Biocompatible electromechanical energy sources. Cell, 2022, 18	5, 2653-2654.	13.5	2
848	Nanoionic memristive phenomena in metal oxides: the valence change mechanism. Adva 2021, 70, 155-349.	nces in Physics,	35.9	60
849	Metaplastic and energy-efficient biocompatible graphene artificial synaptic transistors fo accuracy neuromorphic computing. Nature Communications, 2022, 13, .	r enhanced	5.8	39
850	Intrinsically Stretchable Organic Electrochemical Transistors with Rigidâ€Đeviceâ€Bench Performance. Advanced Science, 2022, 9, .	markable	5.6	12
851	Excitatory postsynaptic current model for synaptic thin-film transistors. Journal of Applie 2022, 132, .	d Physics,	1.1	2
852	Nanosecond protonic programmable resistors for analog deep learning. Science, 2022, 3	77, 539-543.	6.0	49
853	Field-Created Coordinate Cation Bridges Enable Conductance Modulation and Artificial S within Metal Nanoparticles. Nano Letters, 2022, 22, 6794-6801.	ynapse	4.5	10
854	High-Performance Flexible Polymer Memristor Based on Stable Filamentary Switching. Na 2022, 22, 7246-7253.	no Letters,	4.5	20
855	2D materials and van der Waals heterojunctions for neuromorphic computing. Neuromo Computing and Engineering, 2022, 2, 032004.	rphic	2.8	14
856	Organic Neuroelectronics: From Neural Interfaces to Neuroprosthetics. Advanced Materi	als, 2022, 34,	11.1	28

#	Article	IF	CITATIONS
857	Intrinsically stretchable neuromorphic devices for on-body processing of health data with artificial intelligence. Matter, 2022, 5, 3375-3390.	5.0	29
858	Neuromorphic-computing-based adaptive learning using ion dynamics in flexible energy storage devices. National Science Review, 2022, 9, .	4.6	31
859	Tyrosine-mediated analog resistive switching for artificial neural networks. Nano Research, 2023, 16, 858-864.	5.8	6
860	Novel Application of Phosphorescent Material for Nonâ€Volatile Flash Photomemory and Artificial Photonic Synapse. Advanced Functional Materials, 2022, 32, .	7.8	10
861	Thermal Enhanced Resistive Switching Performance of <100>â€oriented Perovskite [(TZâ€H) ₂ (PbBr ₄)] <i>_n</i> with High Working Temperature: a Triazolium/(PbBr ₄) <i>_n</i> ² <i>ⁿ</i> [–] Interfacial Interaction Insight. Advanced Electronic Materials, 2022, 8, .	2.6	10
862	Thermodynamics of organic electrochemical transistors. Nature Communications, 2022, 13, .	5.8	19
863	Temporal Feature and Flexible Modulation in Artificial Synapses Realized by a Combination of Phase Transition and Asymmetric Electric Double Layers. ACS Applied Electronic Materials, 2022, 4, 4129-4139.	2.0	0
864	Multilevel artificial electronic synaptic device of direct grown robust MoS2 based memristor array for in-memory deep neural network. Npj 2D Materials and Applications, 2022, 6, .	3.9	29
865	Flexible and Compatible Synaptic Transistor Based on Electrospun In ₂ O ₃ Nanofibers. IEEE Transactions on Electron Devices, 2022, 69, 5363-5367.	1.6	9
866	Ferroelectric polarization assisted organic artificial synapse with enhanced performance. Organic Electronics, 2022, 109, 106618.	1.4	0
867	Hybrid mixed-dimensional perovskite/metal-oxide heterojunction for all-in-one opto-electric artificial synapse and retinal-neuromorphic system. Nano Energy, 2022, 102, 107686.	8.2	20
868	Allâ€Electric Nonassociative Learning in Nickel Oxide. Advanced Intelligent Systems, 2022, 4, .	3.3	17
869	Research progress of neuromorphic devices based on two-dimensional layered materials. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 218504.	0.2	1
870	Lead-free AgBil ₄ perovskite artificial synapses for a tactile sensory neuron system with information preprocessing function. Materials Advances, 2022, 3, 7248-7256.	2.6	10
871	Exploiting mixed conducting polymers in organic and bioelectronic devices. Physical Chemistry Chemical Physics, 2022, 24, 19144-19163.	1.3	17
872	Light-stimulated artificial synapses based on Si-doped GaN thin films. Journal of Materials Chemistry C, 2022, 10, 13099-13106.	2.7	11
873	Diffusive Memristors with Uniform and Tunable Relaxation Time for Spike Generation in Eventâ€Based Pattern Recognition. Advanced Materials, 2023, 35, .	11.1	10
874	Unraveling the Atomic Redox Process in Quantum Conductance and Synaptic Events for Neuromorphic Computing. Advanced Electronic Materials, 2022, 8, .	2.6	1

# 875	ARTICLE An Ultralow Power Li <i> _x </i> TiO ₂ â€Based Synaptic Transistor for Scalable Neuromorphic Computing. Advanced Electronic Materials, 0, , 2200607.	IF 2.6	CITATIONS 3
876	Soft integration of a neural cells network and bionic interfaces. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	0
877	Fluorinated Alcohol-Processed N-Type Organic Electrochemical Transistor with High Performance and Enhanced Stability. ACS Applied Materials & amp; Interfaces, 2022, 14, 43586-43596.	4.0	16
878	Chargeâ€Compensated Nâ€Doped <i>ï€</i> â€Conjugated Polymers: Toward both Thermodynamic Stability of Nâ€Doped States in Water and High Electron Conductivity. Advanced Science, 2022, 9, .	5.6	7
879	Physical interpretation of mixed ionicâ€electronic conductive polymerâ€coated electrodes by a simple universal impedance model. Electroanalysis, 0, , .	1.5	0
880	Advances in optoelectronic artificial synapses. Cell Reports Physical Science, 2022, 3, 101037.	2.8	11
881	Advancements in materials, devices, and integration schemes for a new generation of neuromorphic computers. Materials Today, 2022, 59, 80-106.	8.3	11
882	Full-Inorganic Flexible Ag ₂ S Memristor with Interface Resistance–Switching for Energy-Efficient Computing. ACS Applied Materials & Interfaces, 2022, 14, 43482-43489.	4.0	16
883	Vertical Organic Ferroelectric Synaptic Transistor for Temporal Information Processing. Advanced Materials Interfaces, 2022, 9, .	1.9	6
884	High-Transconductance, Highly Elastic, Durable and Recyclable All-Polymer Electrochemical Transistors with 3D Micro-Engineered Interfaces. Nano-Micro Letters, 2022, 14, .	14.4	24
885	Emulating the Signal Transmission in a Neural System Using Polymer Membranes. ACS Applied Materials & Interfaces, 2022, 14, 42308-42316.	4.0	2
886	How External Electric Field Modulates the Rotation Energy Profiles of Dipolar Dopants Inside C ₇₀ : A Theoretical Interpretation with Electrostatic Shielding Effect Incorporated. ChemNanoMat, 2022, 8, .	1.5	0
887	Analog Memristor of Leadâ€Free Cs ₄ CuSb ₂ Cl ₁₂ Layered Double Perovskite Nanocrystals as Solidâ€State Electronic Synapse for Neuromorphic Computing. Advanced Materials Interfaces, 2022, 9, .	1.9	8
888	Enhancing the Backbone Coplanarity of n-Type Copolymers for Higher Electron Mobility and Stability in Organic Electrochemical Transistors. Chemistry of Materials, 2022, 34, 8593-8602.	3.2	15
889	Filamentary and Interface-Type Memristors Based on Tantalum Oxide for Energy-Efficient Neuromorphic Hardware. ACS Applied Materials & Interfaces, 2022, 14, 44561-44571.	4.0	24
890	Neurorobotic approaches to emulate human motor control with the integration of artificial synapse. Science Advances, 2022, 8, .	4.7	5
891	2D Metal–Organic Framework Based Optoelectronic Neuromorphic Transistors for Human Emotion Simulation and Neuromorphic Computing. Advanced Intelligent Systems, 0, , 2200164.	3.3	5
892	Impact of Planar and Vertical Organic Fieldâ€Effect Transistors on Flexible Electronics. Advanced Materials, 2023, 35, .	11.1	28

#	Article	IF	CITATIONS
893	Observation of Magnéli Phase Filament Formation in MoO _x Artificial Synapse. Advanced Electronic Materials, 2022, 8, .	2.6	5
894	Synthesis and Properties of Electronâ€Deficient and Electronâ€Rich Redoxâ€Active Ionic Ï€â€Systems. Chemical Record, 2022, 22, .	2.9	0
895	High Conductivity Update Linearity MoS ₂ Memtransistors Array Based on Lithiumâ€lon Modulation. Advanced Materials Interfaces, 0, , 2201775.	1.9	0
896	A nâ€ŧype, Stable Electrolyte Gated Organic Transistor Based on a Printed Polymer. Advanced Electronic Materials, 0, , 2200573.	2.6	5
897	An elastic and reconfigurable synaptic transistor based on a stretchable bilayer semiconductor. Nature Electronics, 2022, 5, 660-671.	13.1	60
898	Review on data-centric brain-inspired computing paradigms exploiting emerging memory devices. Frontiers in Electronic Materials, 0, 2, .	1.6	0
899	An Electrochemicalâ€Electret Coupled Organic Synapse with Singleâ€Polarity Driven Reversible Facilitationâ€ŧoâ€Đepression Switching. Advanced Materials, 2022, 34, .	11.1	6
900	On the modeling of organic electrochemical transistors. , 2022, , .		0
901	All Solution-Processed Inorganic, Multilevel Memristors Utilizing Liquid Metals Electrodes Suitable for Analog Computing. ACS Omega, 2022, 7, 40911-40919.	1.6	4
902	Organic Electrochemical Transistor. , 2022, , 207-220.		0
903	Organic Memory Devices. , 2022, , 261-281.		1
904	Electret-Based Vertical Organic Synaptic Transistor With MXene for Neural Network-Based Computation. IEEE Transactions on Electron Devices, 2022, 69, 6681-6685.	1.6	1
905	Adaptive Image Recognition Circuit Based on CMOS-based Memristor. IEICE Electronics Express, 2022, , .	0.3	1
906	Short-Term Plasticity in 2D Materials for Neuromorphic Computing. , 2022, , 33-53.		1
907	Bioinspired interactive neuromorphic devices. Materials Today, 2022, 60, 158-182.	8.3	55
908	The gate injection-based field-effect synapse transistor with linear conductance update for online training. Nature Communications, 2022, 13, .	5.8	21
909	Memristorâ€Based Intelligent Human‣ike Neural Computing. Advanced Electronic Materials, 2023, 9, .	2.6	16
910	Tafel-Kinetics-Controlled High-Speed Switching in a Electrochemical Graphene Field-Effect Transistor. ACS Applied Materials & Interfaces, 2022, 14, 47991-47998.	4.0	2

#	Article	IF	Citations
911	Analysis of electro-chemical RAM synaptic array for energy-efficient weight update. Frontiers in Nanotechnology, 0, 4, .	2.4	3
913	Nanowires for UV–vis–IR Optoelectronic Synaptic Devices. Advanced Functional Materials, 2023, 33, .	7.8	32
914	An artificial remote tactile device with 3D depth-of-field sensation. Science Advances, 2022, 8, .	4.7	9
915	Thermal Nanostructuring for Rectifying Resistive Switching Behaviors of Cobalt Oxide Neuromorphic Devices. ACS Applied Electronic Materials, 2022, 4, 5573-5581.	2.0	3
916	Electrochemical Ionic Synapses: Progress and Perspectives. Advanced Materials, 2023, 35, .	11.1	13
917	Multiphotoconductance Levels of the Organic Semiconductor of Polyimide-Based Memristor Induced by Interface Charges. Journal of Physical Chemistry Letters, 2022, 13, 9941-9949.	2.1	17
918	Artificial Synapse Based on an InAs Nanowire Field-Effect Transistor with Ferroelectric Polymer P(VDF-TrFE) Passivation. ACS Applied Electronic Materials, 2022, 4, 5008-5016.	2.0	4
919	Reminding forgetful organic neuromorphic device networks. Neuromorphic Computing and Engineering, 2022, 2, 044014.	2.8	5
920	Artificial Tactile Recognition Enabled by Flexible Low-Voltage Organic Transistors and Low-Power Synaptic Electronics. ACS Applied Materials & Interfaces, 2022, 14, 48948-48959.	4.0	15
921	Visible light-driven indium-gallium-zinc-oxide optoelectronic synaptic transistor with defect engineering for neuromorphic computing system and artificial intelligence. Applied Surface Science, 2023, 610, 155532.	3.1	9
922	A fibrous neuromorphic device for multi-level nerve pathways implementing knee jerk reflex and cognitive activities. Nano Energy, 2022, 104, 107898.	8.2	10
923	Perspectives on weak interactions in complex materials at different length scales. Physical Chemistry Chemical Physics, 2023, 25, 2671-2705.	1.3	10
924	Highly Reproducible Heterosynaptic Plasticity Enabled by MoS ₂ /ZrO _{2–<i>x</i>} Heterostructure Memtransistor. ACS Applied Materials & Interfaces, 2022, 14, 52173-52181.	4.0	2
925	Bioderived materials for stimuli-responsive, adaptive, and neuromorphic systems: A perspective. Journal of Composite Materials, 2023, 57, 659-678.	1.2	1
926	Reservoir computing with 2D materials. Nature Electronics, 2022, 5, 715-716.	13.1	2
927	Stable retention in SrTiO3/SrRuO3 heterostructure-based memristive devices. Science China Materials, 2023, 66, 1140-1147.	3.5	5
928	Perovskite Solar Cellâ€Gated Organic Electrochemical Transistors for Flexible Photodetectors with Ultrahigh Sensitivity and Fast Response. Advanced Materials, 2023, 35, .	11.1	16
929	Ultralowâ€Power Vertical Transistors for Multilevel Decoding Modes. Advanced Materials, 2023, 35, .	11.1	17

# 930	ARTICLE Synaptic plasticity in electro-polymerized PEDOT based memristors for neuromorphic application. Journal of Materials Science: Materials in Electronics, 2022, 33, 27053-27061.	IF 1.1	CITATIONS
931	Recent advances in 2D organicâ^'inorganic heterostructures for electronics and optoelectronics. SmartMat, 2023, 4, .	6.4	15
932	Liâ€Ionâ€Based Electrolyteâ€Gated Transistors with Short Writeâ€Read Delay for Neuromorphic Computing. Advanced Electronic Materials, 2023, 9, .	2.6	5
933	Synergistic Effect of Oxoammonium Salt and Its Counterions for Fabricating Organic Electrochemical Transistors with Low Power Consumption. ACS Applied Materials & Interfaces, 2022, 14, 51165-51174.	4.0	3
934	Nonvolatile Electrochemical Randomâ€Access Memory under Short Circuit. Advanced Electronic Materials, 2023, 9, .	2.6	5
935	Programmable ferroelectric bionic vision hardware with selective attention for high-precision image classification. Nature Communications, 2022, 13, .	5.8	35
936	Memristive/CMOS Devices for Neuromorphic Applications. Springer Handbooks, 2023, , 1167-1199.	0.3	0
937	An organic artificial spiking neuron for in situ neuromorphic sensing and biointerfacing. Nature Electronics, 2022, 5, 774-783.	13.1	46
938	Advanced synaptic devices and their applications in biomimetic sensory neural system. , 2023, 2, 100031.		7
939	ECRAM Materials, Devices, Circuits and Architectures: A Perspective. Advanced Materials, 2023, 35, .	11.1	15
940	Side chain engineering enhances the high-temperature resilience and ambient stability of organic synaptic transistors for neuromorphic applications. Nano Energy, 2022, 104, 107985.	8.2	13
941	Transient memristive device based on lead-free double perovskite for secured data storage and artificial learning systems. Ceramics International, 2022, , .	2.3	3
942	Cobalt oxide nanoparticles embedded in borate matrix: A conduction mode atomic force microscopy approach to induce nano-memristor switching for neuromorphic applications. Applied Materials Today, 2022, 29, 101691.	2.3	13
943	A Flexible Organic Electrochemical Synaptic Transistor With Dopamine-Mediated Plasticity. IEEE Electron Device Letters, 2023, 44, 176-179.	2.2	10
944	Optical synaptic devices with ultra-low power consumption for neuromorphic computing. Light: Science and Applications, 2022, 11, .	7.7	32
945	Dynamic molecular switches with hysteretic negative differential conductance emulating synaptic behaviour. Nature Materials, 2022, 21, 1403-1411.	13.3	24
946	Recent advances in neuromorphic transistors for artificial perception applications. Science and Technology of Advanced Materials, 2023, 24, .	2.8	19
947	Brain-Derived 3D NanoPhotonic-NanoElectronic Neuromorphic Computing. , 2022, , .		0

#	Article	IF	CITATIONS
948	Submicron Vertical Channel Organic Electrochemical Transistors with Ultrahigh Transconductance. Advanced Electronic Materials, 2023, 9, .	2.6	10
949	Flexible multiterminal photoelectronic neurotransistors based on selfâ€assembled rubber semiconductors for spatiotemporal information processing. SmartMat, 2023, 4, .	6.4	4
950	Biodegradable Materials for Transient Organic Transistors. Advanced Functional Materials, 2023, 33, .	7.8	16
951	Artificial Intelligence and Advanced Materials. Advanced Materials, 2023, 35, .	11.1	10
952	Tunable Intervalence Charge Transfer in Ruthenium Prussian Blue Analog Enables Stable and Efficient Biocompatible Artificial Synapses. Advanced Materials, 2023, 35, .	11.1	3
953	Room-temperature valley transistors for low-power neuromorphic computing. Nature Communications, 2022, 13, .	5.8	11
954	Short-term plasticity, multimodal memory, and logical responses mimicked in stretchable hydrogels. Matter, 2023, 6, 429-444.	5.0	12
955	Ionic-electronic halide perovskite memdiodes enabling neuromorphic computing with a second-order complexity. Science Advances, 2022, 8, .	4.7	8
956	Cul: An Attractive Material for Constructing Transparent and Metal-electrode-free Optoelectronic Synapse. ACS Applied Electronic Materials, 2023, 5, 571-577.	2.0	1
957	Electrolyte-gated synaptic transistors for brain-inspired computing. Japanese Journal of Applied Physics, 2023, 62, SE0801.	0.8	6
958	Nanoenabled Trainable Systems: From Biointerfaces to Biomimetics. ACS Nano, 2022, 16, 19651-19664.	7.3	5
959	High-performance and multifunctional organic field-effect transistors. Chinese Chemical Letters, 2023, 34, 108094.	4.8	7
960	Retinaâ€Inspired Organic Photonic Synapses for Selective Detection of SWIR Light. Angewandte Chemie - International Edition, 2023, 62, .	7.2	12
961	Retinaâ€Inspired Organic Photonic Synapses for Selective Detection of SWIR Light. Angewandte Chemie, 2023, 135, .	1.6	2
962	Humanlike spontaneous motion coordination of robotic fingers through spatial multi-input spike signal multiplexing. Nature Communications, 2023, 14, .	5.8	7
963	Nanofluidic computing makes a splash. Science, 2023, 379, 143-144.	6.0	17
964	Photogated Synaptic Transistors Based on the Heterostructure of 4H-SiC and Organic Semiconductors for Neuromorphic Ultraviolet Vision. ACS Applied Electronic Materials, 2023, 5, 367-374.	2.0	5
965	Solidâ€State Homojunction Electrochemical Transistors and Logic Gates on Plastic. Advanced Functional Materials, 2023, 33, .	7.8	3

	CITATION REP	PORT	
#	Article	IF	CITATIONS
966	基于Ge-Ga-Sb介è^;çš"å;ç›,å•脉冲神ç»ç½′络的设计. Science China Materials, 2023, 66, 1551-1558	. 3.5	5
967	Ultrasensitive solar-blind ultraviolet detection and optoelectronic neuromorphic computing using α-In2Se3 phototransistors. Frontiers of Physics, 2023, 18, .	2.4	4
968	A review of memristor: material and structure design, device performance, applications and prospects. Science and Technology of Advanced Materials, 2023, 24, .	2.8	24
969	Intelligent matter endows reconfigurable temperature and humidity sensations for in-sensor computing. Materials Horizons, 2023, 10, 1030-1041.	6.4	7
970	Neuromorphic functions with a polyelectrolyte-confined fluidic memristor. Science, 2023, 379, 156-161.	6.0	72
971	Solving integral equations in free space with inverse-designed ultrathin optical metagratings. Nature Nanotechnology, 2023, 18, 365-372.	15.6	21
972	AÂReconfigurable Optoelectronic Synaptic Transistor with Stable Zrâ€CsPbI ₃ Nanocrystals for Visuomorphic Computing. Advanced Materials, 2023, 35, .	11.1	32
973	Emerging electrolyte-gated transistors for neuromorphic perception. Science and Technology of Advanced Materials, 2023, 24, .	2.8	13
974	2D metal-organic frameworks for ultraflexible electrochemical transistors with high transconductance and fast response speeds. Science Advances, 2023, 9, .	4.7	21
975	CsPbBr3/graphene nanowall artificial optoelectronic synapses for controllable perceptual learning. PhotoniX, 2023, 4, .	5.5	13
976	Artificial optical synaptic devices with ultra-low power consumption. Light: Science and Applications, 2023, 12, .	7.7	4
977	Triboelectric nanogenerator for neuromorphic electronics. , 2023, 2, 100014.		7
978	Electrical characteristics and conductive mechanisms of AlN-based memristive devices. , 2022, 18, 815-825.		0
979	The effect of residual palladium on the performance of organic electrochemical transistors. Nature Communications, 2022, 13, .	5.8	17
980	Vertical organic electrochemical transistors for complementary circuits. Nature, 2023, 613, 496-502.	13.7	73
981	Ligand Exchange Reaction Enables Digitalâ€Toâ€Analog Resistive Switching and Artificial Synapse within Metal Nanoparticles. Advanced Functional Materials, 2023, 33, .	7.8	2
982	Applications of Graphene in Five Senses, Nervous System, and Artificial Muscles. ACS Sensors, 2023, 8, 482-514.	4.0	24
983	High-temperature operation of gallium oxide memristors up to 600ÂK. Scientific Reports, 2023, 13, .	1.6	11

#	Article	IF	CITATIONS
984	Simulation of polymeric mixed ionic and electronic conductors with a combined classical and quantum mechanical model. Journal of Materials Chemistry C, 2023, 11, 8062-8073.	2.7	7
985	Dual-Gate IGZO-Based Neuromorphic Transistors with Stacked Al ₂ O ₃ /Chitosan Gate Dielectrics. Wuji Cailiao Xuebao/Journal of Inorganic Materials, 2023, , 767.	0.6	0
986	Artificial synapse based on 1,4-diphenylbutadiyne with femtojoule energy consumption. Physical Chemistry Chemical Physics, 2023, 25, 5453-5458.	1.3	1
987	Wearable in-sensor reservoir computing using optoelectronic polymers with through-space charge-transport characteristics for multi-task learning. Nature Communications, 2023, 14, .	5.8	22
988	Water-soluble conjugated polymers for bioelectronic systems. Materials Horizons, 2023, 10, 1210-1233.	6.4	16
989	In-Memory Tactile Sensor with Tunable Steep-Slope Region for Low-Artifact and Real-Time Perception of Mechanical Signals. ACS Nano, 2023, 17, 2134-2147.	7.3	5
990	A Tiâ€Đoped Chemical Vapor Deposition Diamond Device as Artificial Synapse for Neuromorphic Applications. Advanced Materials Technologies, 2023, 8, .	3.0	5
991	Effect of Training Pulse Parameters on the Synaptic Plasticity of a ZrO ₂ (Y)â€Based Memristive Device. Physica Status Solidi (A) Applications and Materials Science, 2023, 220, .	0.8	1
992	Rare earth halide double perovskites for high-performance resistive random access memory. Journal of Materials Chemistry C, 2023, 11, 4946-4952.	2.7	2
993	Stretchable Transistorâ€Structured Artificial Synapses for Neuromorphic Electronics. Small, 2023, 19, .	5.2	14
994	Advances in organic transistors for artificial perception applications. , 2023, 3, 100028.		3
995	Resistive switching performance and synaptic behavior of La-doped HfO2 thin film. Thin Solid Films, 2023, 774, 139842.	0.8	1
996	lonic Gating for Tuning Electronic and Magnetic Properties. Annual Review of Materials Research, 2023, 53, 25-51.	4.3	2
997	Flexible electrochemical sensor constructed using an active copper center instead of unstable molybdenum carbide for simultaneous detection of toxic catechol and hydroquinone. Microchemical Journal, 2023, 187, 108443.	2.3	8
998	Dynamics of PSG-Based Nanosecond Protonic Programmable Resistors for Analog Deep Learning. , 2022, , .		4
999	Soft Fiber Electronics Based on Semiconducting Polymer. Chemical Reviews, 2023, 123, 4693-4763.	23.0	40
1000	Mimicking Pain-Perceptual Sensitization and Pattern Recognition Based on Capacitance- and Conductance-Regulated Neuroplasticity in Neural Network. ACS Applied Materials & Interfaces, 2023, 15, 9593-9603.	4.0	3
1001	Origin, Nature, and Location of Defects in PM6:Y6 Organic Solar Cells. Advanced Energy Materials, 2023, 13, .	10.2	10

	CITATION REF	PORT	
#	Article	IF	CITATIONS
1002	In-memory computing with emerging memory devices: Status and outlook. , 2023, 1, .		14
1003	A flexible artificial chemosensory neuronal synapse based on chemoreceptive ionogel-gated electrochemical transistor. Nature Communications, 2023, 14, .	5.8	24
1004	Optically modulated ionic conductivity in a hydrogel for emulating synaptic functions. Science Advances, 2023, 9, .	4.7	11
1005	A novel CVD graphene-based synaptic transistors with ionic liquid gate. Nanotechnology, 2023, 34, 215201.	1.3	2
1006	Recent Progress in Organic-Based Photonic Synapses. , 2022, 1, 155-173.		1
1007	Ultra-low operation current and abnormal bipolar switching phenomena of hydrogen-passivated HfO2 memristive devices for low power artificial neural network applications. Ceramics International, 2023, 49, 17497-17505.	2.3	2
1008	Organic Bioelectronics Development in Italy: A Review. Micromachines, 2023, 14, 460.	1.4	3
1009	TH-iSSD: Design and Implementation of a Generic and Reconfigurable Near-Data Processing Framework. Transactions on Embedded Computing Systems, 0, , .	2.1	0
1010	Ferroelectricsâ€Electret Synergetic Organic Artificial Synapses with Singleâ€Polarity Driven Dynamic Reconfigurable Modulation. Advanced Functional Materials, 2023, 33, .	7.8	15
1011	Temperature-controlled multisensory neuromorphic devices for artificial visual dynamic capture enhancement. Nano Research, 2023, 16, 7661-7670.	5.8	3
1012	InÂLiquido Computation with Electrochemical Transistors and Mixed Conductors for Intelligent Bioelectronics. Advanced Materials, 0, , 2209516.	11.1	4
1013	Jâ€Type Selfâ€Assembled Supramolecular Polymers for Highâ€Performance and Fastâ€Response nâ€Type Organic Electrochemical Transistors. Advanced Functional Materials, 2023, 33, .	7.8	7
1014	Interfacing Biology and Electronics with Memristive Materials. Advanced Materials, 2023, 35, .	11.1	7
1015	nâ€Type Glycolated Imideâ€Fused Polycyclic Aromatic Hydrocarbons with High Capacity for Liquid/Solidâ€Electrolyteâ€based Electrochemical Devices. Advanced Functional Materials, 2023, 33, .	7.8	6
1016	Doppler Frequency‣hift Information Processing in WO <i>_x</i> â€Based Memristive Synapse for Auditory Motion Perception. Advanced Science, 2023, 10, .	5.6	6
1017	Large-Area Growth of Two-Dimensional Rhenium Disulfide Depicting Robust Artificial Photoreceptor-cum-Optic Nerve Synaptic Functionality. , 2023, 1, 759-770.		0
1018	Boron nitride-mediated semiconductor nanonetwork for an ultralow-power fibrous synaptic transistor and C-reactive protein sensing. Journal of Materials Chemistry C, 2023, 11, 5208-5216.	2.7	4
1019	Fully 3D-printed organic electrochemical transistors. Npj Flexible Electronics, 2023, 7, .	5.1	13

	Сітатіо	n Report	
#	Article	IF	CITATIONS
1020	High-Sensitivity Composite Dual-Network Hydrogel Strain Sensor and Its Application in Intelligent Recognition and Motion Monitoring. ACS Applied Polymer Materials, 2023, 5, 2628-2638.	2.0	6
1021	Environmentally Stable and Reconfigurable Ultralow-Power Two-Dimensional Tellurene Synaptic Transistor for Neuromorphic Edge Computing. ACS Applied Materials & Interfaces, 2023, 15, 18463-18472.	4.0	6
1022	Emerging Iontronic Neural Devices for Neuromorphic Sensory Computing. Advanced Materials, 2023, 35, .	11.1	18
1023	Lightâ€Induced Bipolar Photoresponse with Amplified Photocurrents in an Electrolyteâ€Assisted Bipolar p–n Junction. Advanced Materials, 2023, 35, .	11.1	22
1024	A perovskite-based artificial photonic synapse with visible light modulation and ultralow current for neuromorphic computing. Microelectronic Engineering, 2023, 274, 111982.	1.1	7
1025	Heterosynaptic MoS ₂ Memtransistors Emulating Biological Neuromodulation for Energyâ€Efficient Neuromorphic Electronics. Advanced Materials, 2023, 35, .	11.1	9
1026	A Biologically Interfaced Evolvable Organic Pattern Classifier. Advanced Science, 2023, 10, .	5.6	5
1027	Van der Waals ferroelectric transistors: the all-round artificial synapses for high-precision neuromorphic computing. , 2023, 2, 100044.		2
1028	<scp>Polymerâ€based</scp> neuromorphic devices: resistive switches and organic electrochemical transistors. Polymer International, 2023, 72, 609-618.	1.6	3
1029	Nanowire-based synaptic devices for neuromorphic computing. Materials Futures, 2023, 2, 023501.	3.1	11
1030	High-Performance C ₆₀ Coupled Ferroelectric Enhanced MoS ₂ Nonvolatile Memory. ACS Applied Materials & Interfaces, 2023, 15, 16910-16917.	4.0	3
1031	Research Process of Carbon Dots in Memristors. Advanced Electronic Materials, 2023, 9, .	2.6	6
1032	Hybridization state transition-driven carbon quantum dot (CQD)-based resistive switches for bionic synapses. Materials Horizons, 2023, 10, 2181-2190.	6.4	9
1033	Top-Gate Transparent Organic Synaptic Transistors Based on Co-Mingled Heterojunctions. Electronics (Switzerland), 2023, 12, 1596.	1.8	Ο
1034	Proton-Gated Synaptic Transistors, Based on an Electron-Beam Patterned Nafion Electrolyte. ACS Applied Materials & Interfaces, 2023, 15, 19279-19289.	4.0	6
1035	High Performance, Flexible, and Thermally Stable All-Solid-State Organic Electrochemical Transistor Based on Thermoplastic Polyurethane Ion Gel. ACS Applied Electronic Materials, 2023, 5, 2215-2226.	2.0	3
1036	Electrically function-switchable magnetic domain-wall memory. National Science Review, 2023, 10, .	4.6	5
1037	Self-powered optoelectronic artificial synapses based on a lead-free perovskite film for artificial visual perception systems. Journal of Materials Chemistry C, 2023, 11, 6212-6219.	2.7	6

#	Article	IF	CITATIONS
1038	Spiking neural networks compensate for weight drift in organic neuromorphic device networks. Neuromorphic Computing and Engineering, 2023, 3, 024008.	2.8	2
1039	Sensory Adaptation in Biomolecular Memristors Improves Reservoir Computing Performance. Advanced Intelligent Systems, 2023, 5, .	3.3	5
1040	Probing transport energies and defect states in organic semiconductors using energy resolved electrochemical impedance spectroscopy. Advanced Materials Interfaces, 2023, 10, .	1.9	3
1041	Operando NMR electrochemical gating studies of ion dynamics in PEDOT:PSS. Nature Materials, 2023, 22, 746-753.	13.3	10
1042	Polymeric gate insulators to induce synaptic photoresponse of organic transistors. Journal of the Korean Physical Society, 2023, 83, 320-327.	0.3	2
1043	Electrochemical Doping in Ordered and Disordered Domains of Organic Mixed Ionic–Electronic Conductors. Advanced Materials, 2023, 35, .	11.1	10
1044	Surface-modified polydimethylsiloxane with soft-plasma as dielectric layer for flexible artificial synaptic transistors. Applied Surface Science, 2023, 627, 157325.	3.1	2
1046	An organic device with volatility on demand. Nature Electronics, 2023, 6, 268-269.	13.1	0
1055	Neural-inspired artificial synapses based on low-voltage operated organic electrochemical transistors. Journal of Materials Chemistry C, 2023, 11, 7485-7509.	2.7	5
1061	Optically Readable Organic Electrochemical Synaptic Transistors for Neuromorphic Photonic Image Processing. Nano Letters, 2023, 23, 5264-5271.	4.5	6
1066	Black Phosphorus/Ferroelectric P(VDF-TrFE) Field-Effect Transistors with High Mobility for Energy-Efficient Artificial Synapse in High-Accuracy Neuromorphic Computing. Nano Letters, 2023, 23, 6752-6759.	4.5	10
1097	Fully Depleted MOSFET Based Bio-Plausible Synapse for Ultra-Low Energy Applications. , 2023, , .		0
1116	Porous crystalline materials for memories and neuromorphic computing systems. Chemical Society Reviews, 2023, 52, 7071-7136.	18.7	14
1122	Organic Resistive Memories for Neuromorphic Electronics. , 2023, , 60-120.		0
1137	Oxide Neuromorphic Transistors for Brain-like Computing. , 2023, , 530-554.		0
1138	Polymer-based Transistor-type Memory and Artificial Synapses. , 2023, , 409-430.		0
1144	Computing of Neuromorphic Materials: An Emerging Approach for Bioengineering Solutions. Materials Advances, 0, , .	2.6	0
1148	van der Waals 2D transition metal dichalcogenide/organic hybridized heterostructures: recent breakthroughs and emerging prospects of the device. Nanoscale Horizons, 2023, 9, 44-92.	4.1	1

#	Article	IF	CITATIONS
1155	Artificial Intelligence Meets Flexible Sensors: Emerging Smart Flexible Sensing Systems Driven by Machine Learning and Artificial Synapses. Nano-Micro Letters, 2024, 16, .	14.4	5
1177	From Molecular to Nanoscale Control of Organic Semiconductors for Biosensing Applications. , 2023, , .		0
1181	Neuromorphic computing based on halide perovskites. Nature Electronics, 2023, 6, 949-962.	13.1	0
1182	A hybrid process for integration of organic electrochemical transistors for high uniformity & reliability. MRS Communications, 0, , .	0.8	0
1190	Organic mixed conductors for bioinspired electronics. Nature Reviews Materials, 2024, 9, 134-149.	23.3	3
1201	Non-Volatile Photonic Synapse with Ultra-Low Insertion Loss for Deep Neural Network. , 2023, , .		0
1202	Resistive switching in benzylammonium-based Ruddlesden–Popper layered hybrid perovskites for non-volatile memory and neuromorphic computing. Materials Advances, 2024, 5, 1880-1886.	2.6	0
1210	Nanoscale memristor devices: materials, fabrication, and artificial intelligence. Journal of Materials Chemistry C, 2024, 12, 3770-3810.	2.7	1