Inflammation-free, gas-permeable, lightweight, stretchable on-skin electronics with nanomeshes

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#	Paper	IF	Citations
699	Research Highlights. **2017**, 35, 925-925		
698	Wearable electronics: Nanomesh on-skin electronics. *Nature Nanotechnology*, **2017**, 12, 839-840	28.7	82
697	Skin to e-skin. *Nature Nanotechnology*, **2017**, 12, 1017	28.7	7
696	Materials and Wearable Devices for Autonomous Monitoring of Physiological Markers. **2018**, 30, e1705024		110
695	Strongly anisotropic thermal conductivity and adequate breathability of bilayered films for heat management of on-skin electronics. **2018**, 5, 035013		9
694	3D Printed Functional and Biological Materials on Moving Freeform Surfaces. **2018**, 30, e1707495		102
693	Skin-Inspired Electronics: An Emerging Paradigm. **2018**, 51, 1033-1045		288
692	Chitosan-Based Polysaccharide-Gated Flexible Indium Tin Oxide Synaptic Transistor with Learning Abilities. **2018**, 10, 16881-16886		83
691	Three-dimensional helical inorganic thermoelectric generators and photodetectors for stretchable and wearable electronic devices. **2018**, 6, 4866-4872		49
690	Defect-Free, Highly Uniform Washable Transparent Electrodes Induced by Selective Light Irradiation. **2018**, 14, e1800676		13
689	Interface-Controlled Conductive Fibers for Wearable Strain Sensors and Stretchable Conducting Wires. **2018**, 10, 14087-14096		51
688	Plasticizing Silk Protein for On-Skin Stretchable Electrodes. **2018**, 30, e1800129		160
687	A tunable palladium nanoparticle film-based strain sensor in a Mott variable-range hopping regime. **2018**, 272, 161-169		9
686	Rehealable, fully recyclable, and malleable electronic skin enabled by dynamic covalent thermoset nanocomposite. **2018**, 4, eaaq0508		269
685	Untethered soft robotics. **2018**, 1, 102-112		448
684	Self-powered nanofiber-based screen-print triboelectric sensors for respiratory monitoring. **2018**, 11, 3771-3779		72
683	Recent Advances in Wearable Transdermal Delivery Systems. **2018**, 30, 1704530		105

682	Scalable fabrication of free-standing, stretchable CNT/TPE ultrathin composite films for skin adhesive epidermal electronics. **2018**, 6, 6666-6671	23
681	Full fabric sensing network with large deformation for continuous detection of skin temperature. **2018**, 27, 105017	15
680	Chemical Monitoring in Clinical Settings: Recent Developments toward Real-Time Chemical Monitoring of Patients. **2018**, 90, 2-18	23
679	A Breathable and Screen-Printed Pressure Sensor Based on Nanofiber Membranes for Electronic Skins. **2018**, 3, 1700241	105
678	Stretchable TiCT MXene/Carbon Nanotube Composite Based Strain Sensor with Ultrahigh Sensitivity and Tunable Sensing Range. **2018**, 12, 56-62	437
677	Enhanced Ionic Conductivity in Ce0.8Gd0.2O2-δ Nanofiber: Effect of the Crystallite Size. **2018**, 281, 761-766	1
676	Materials and Structures toward Soft Electronics. **2018**, 30, e1801368	298
675	Flexible Integrated Sensor Array for Pressure, Humidity and Temperature Sensing*. **2018**,	
674	Optimized Bending Stable Carbon Nanotube - Polymer Composite for Room Temperature Thermal Detection. **2018**,	
673	A Soft Thermal Modulation and Physiological Sensing System for Neuro-Vascular Assessment. **2018** ,	1
672	Electronic-skin compasses for geomagnetic field-driven artificial magnetoreception and interactive electronics. **2018**, 1, 589-595	66
671	Nanomaterials in Skin-Inspired Electronics: Toward Soft and Robust Skin-like Electronic Nanosystems. **2018**, 12, 11731-11739	100
670	Recent Advances in Smart Wearable Sensing Systems. **2018**, 3, 1800444	78
669	Breathable Materials for Triboelectric Effect-Based Wearable Electronics. **2018**, 8, 2485	16
668	Reversible conductivity recovery of highly sensitive flexible devices by water vapor. **2018**, 2,	9
667	Restickable Oxide Neuromorphic Transistors with Spike-Timing-Dependent Plasticity and Pavlovian Associative Learning Activities. **2018**, 28, 1804025	93
666	Gas-Permeable, Multifunctional On-Skin Electronics Based on Laser-Induced Porous Graphene and Sugar-Templated Elastomer Sponges. **2018**, 30, e1804327	177
665	Nanocellulose–polyurethane substrate material with tunable mechanical properties for wearable electronics. **2018**, 3, 045002	12

664	Hygroscopic Auxetic On-Skin Sensors for Easy-to-Handle Repeated Daily Use. **2018**, 10, 40141-40148	41
663	Printed Organic Transistor-Based Enzyme Sensor for Continuous Glucose Monitoring in Wearable Healthcare Applications. **2018**, 5, 3881-3886	19
662	Kirigami-Inspired Deformable 3D Structures Conformable to Curved Biological Surface. **2018**, 5, 1801070	33
661	Gelatin Hydrogel-Based Organic Electrochemical Transistors and Their Integrated Logic Circuits. **2018**, 10, 39083-39090	48
660	Transparent arrays of bilayer-nanomesh microelectrodes for simultaneous electrophysiology and two-photon imaging in the brain. **2018**, 4, eaat0626	66
659	Standing Enokitake-like Nanowire Films for Highly Stretchable Elastronics. **2018**, 12, 9742-9749	93
658	Deployment and exploitation of nanotechnology nanomaterials and nanomedicine. **2018**,	23
657	Patchable micro/nanodevices interacting with skin. **2018**, 122, 189-204	36
656	Protein-Based Electronic Skin Akin to Biological Tissues. **2018**, 12, 5637-5645	70
655	Inflammation-free and gas-permeable on-skin triboelectric nanogenerator using soluble nanofibers. **2018**, 51, 260-269	34
654	Wafer-scale, stretchable nanomeshes from an ultrathin-support-layer assisted transfer. **2018**, 112, 263101	8
653	Recent Progress and Future Prospects of 2D-Based Photodetectors. **2018**, 30, e1801164	221
652	Transparent and conductive nanomembranes with orthogonal silver nanowire arrays for skin-attachable loudspeakers and microphones. **2018**, 4, eaas8772	98
651	Self-Adhesive and Ultra-Conformable, Sub-300 nm Dry Thin-Film Electrodes for Surface Monitoring of Biopotentials. **2018**, 28, 1803279	81
650	Ratiometrically Fluorescent Electrospun Nanofibrous Film as a Cu-Mediated Solid-Phase Immunoassay Platform for Biomarkers. **2018**, 90, 9966-9974	31
649	Unconventional Janus Properties of Enokitake-like Gold Nanowire Films. **2018**, 12, 8717-8722	43
648	Optimized Potentiometric Assay for Non-invasive Investigation of Skin Antioxidant Activity. **2018**, 30, 2405-2412	7
647	Ultraflexible Near-Infrared Organic Photodetectors for Conformal Photoplethysmogram Sensors. **2018**, 30, e1802359	111

646	Real Time Analysis of Bioanalytes in Healthcare, Food, Zoology and Botany. **2017**, 18,		15
645	Theoretical search for heterogeneously architected 2D structures. **2018**, 115, E7245-E7254		25
644	Flexible Polymer-Carbon Nanotube Composite with High-Response Stability for Wearable Thermal Imaging. **2018**, 10, 26604-26609		13
643	Wearable Technology for Chronic Wound Monitoring: Current Dressings, Advancements, and Future Prospects. **2018**, 6, 47		74
642	Reverse-Offset Printed Ultrathin Ag Mesh for Robust Conformal Transparent Electrodes for High-Performance Organic Photovoltaics. **2018**, 30, e1707526		48
641	Highly Robust, Transparent, and Breathable Epidermal Electrode. **2018**, 12, 9326-9332		102
640	Recent progress in flexible pressure sensor arrays: from design to applications. **2018**, 6, 11878-11892		116
639	Highly conductive, stretchable and biocompatible Ag-Au core-sheath nanowire composite for wearable and implantable bioelectronics. *Nature Nanotechnology*, **2018**, 13, 1048-1056	28.7	440
638	Three-dimensional integrated stretchable electronics. **2018**, 1, 473-480		201
637	Wearable and Implantable Epidermal Paper-Based Electronics. **2018**, 10, 31061-31068		36
636	Fully printed all-polymer tattoo/textile electronics for electromyography. **2018**, 3, 034004		35
635	Air-Permeable and Washable Paper-Based Triboelectric Nanogenerator Based on Highly Flexible and Robust Paper Electrodes. **2018**, 3, 1800178		33
634	Smart Portable Devices Suitable for Cultural Heritage: A Review. **2018**, 18,		8
633	Biodegradable Transparent Substrate Based on Edible Starch-Chitosan Embedded with Nature-Inspired Three-Dimensionally Interconnected Conductive Nanocomposites for Wearable Green Electronics. **2018**, 10, 23037-23047		43
632	Biomechano-Interactive Materials and Interfaces. **2018**, 30, e1800572		75
631	Highly Conformable, Transparent Electrodes for Epidermal Electronics. **2018**, 18, 4531-4540		100
630	Recent progress in silver nanowire based flexible/wearable optoelectronics. **2018**, 6, 7445-7461		88
629	Nanocellulose-based films and their emerging applications. **2019**, 23, 100764		62

628	Screen printed silver nanowire and graphene oxide hybrid transparent electrodes for long-term electrocardiography monitoring. **2019**, 52, 455401		35
627	Stretchable and Transparent Kirigami Conductor of Nanowire Percolation Network for Electronic Skin Applications. **2019**, 19, 6087-6096		136
626	An ultraflexible organic differential amplifier for recording electrocardiograms. **2019**, 2, 351-360		62
625	Overview of Flexible and Stretchable Approaches. **2019**, 95-111		
624	Multifunctional Electronic Textiles Using Silver Nanowire Composites. **2019**, 11, 31028-31037		55
623	A stretchable and breathable form of epidermal device based on elastomeric nanofibre textiles and silver nanowires. **2019**, 7, 9748-9755		21
622	Hierarchically Structured Vertical Gold Nanowire Array-Based Wearable Pressure Sensors for Wireless Health Monitoring. **2019**, 11, 29014-29021		86
621	Laser-Processed Nature-Inspired Deformable Structures for Breathable and Reusable Electrophysiological Sensors toward Controllable Home Electronic Appliances and Psychophysiological Stress Monitoring. **2019**, 11, 28387-28396		27
620	Highly Stretchable Metallic Nanowire Networks Reinforced by the Underlying Randomly Distributed Elastic Polymer Nanofibers via Interfacial Adhesion Improvement. **2019**, 31, e1903446		56
619	Skin-Inspired Electronics and Its Applications in Advanced Intelligent Systems. **2019**, 1, 1900063		12
618	Capillarity-Enhanced Organ-Attachable Adhesive with Highly Drainable Wrinkled Octopus-Inspired Architectures. **2019**, 11, 25674-25681		32
617	Mechanocombinatorially Screening Sensitivity of Stretchable Strain Sensors. **2019**, 31, e1903130		47
616	An atlas of nano-enabled neural interfaces. *Nature Nanotechnology*, **2019**, 14, 645-657	28.7	80
615	Electronic design automation for increased robustness in inkjet-printed electronics. **2019**, 4, 045002		2
614	Super- and Ultrathin Organic Field-Effect Transistors: from Flexibility to Super- and Ultraflexibility. **2019**, 29, 1906908		20
613	Electronic Skin: Recent Progress and Future Prospects for Skin-Attachable Devices for Health Monitoring, Robotics, and Prosthetics. **2019**, 31, e1904765		498
612	Triboelectric Power Generation from Heterostructured Air-Laid Paper for Breathable and Wearable Self-Charging Power System. **2019**, 4, 1900745		7
611	Coordination Bonds and Diels–Alder Bonds Dual Crosslinked Polymer Networks of Self-healing Polyurethane. **2019**, 57, 2228-2234		7

610	Omnidirectional Strain-Independent Organic Transistors Integrated onto an Elastomer Template with a Spontaneously Formed Fingerprint-Mimicking Microtopography. **2019**, 5, 1900441	7
609	Numerical Simulation of Ore Particle Flow Behaviour through a Single Drawpoint under the Influence of a Flexible Barrier. **2019**, 2019, 1-11	5
608	Leather-Based Strain Sensor with Hierarchical Structure for Motion Monitoring. **2019**, 4, 1900442	19
607	Disease Detection with Molecular Biomarkers: From Chemistry of Body Fluids to Nature-Inspired Chemical Sensors. **2019**, 119, 11761-11817	134
606	Breathable Nanomesh Humidity Sensor for Real-Time Skin Humidity Monitoring. **2019**, 11, 44758-44763	52
605	Ultrathin Organic Electrochemical Transistor with Nonvolatile and Thin Gel Electrolyte for Long-Term Electrophysiological Monitoring. **2019**, 29, 1906982	44
604	A Flexible, Robust, and Gel-Free Electroencephalogram Electrode for Noninvasive Brain-Computer Interfaces. **2019**, 19, 6853-6861	80
603	Gelatin-hydrogel based organic synaptic transistor. **2019**, 75, 105409	24
602	Local Crack-Programmed Gold Nanowire Electronic Skin Tattoos for In-Plane Multisensor Integration. **2019**, 31, e1903789	94
601	An ultrahigh resolution pressure sensor based on percolative metal nanoparticle arrays. **2019**, 10, 4024	45
600	A bimodal soft electronic skin for tactile and touchless interaction in real time. **2019**, 10, 4405	91
599	3D Printer-Based Encapsulated Origami Electronics for Extreme System Stretchability and High Areal Coverage. **2019**, 13, 12500-12510	15
598	Motion recognition by a liquid filled tubular triboelectric nanogenerator. **2019**, 11, 495-503	10
597	Softening gold for elastronics. **2019**, 48, 1668-1711	96
596	Highly Permeable Skin Patch with Conductive Hierarchical Architectures Inspired by Amphibians and Octopi for Omnidirectionally Enhanced Wet Adhesion. **2019**, 29, 1807614	73
595	Bio-Integrated Wearable Systems: A Comprehensive Review. **2019**, 119, 5461-5533	496
594	Collagen-based breathable, humidity-ultrastable and degradable on-skin device. **2019**, 7, 2548-2556	14
593	An integrated transparent, UV-filtering organohydrogel sensor via molecular-level ion conductive channels. **2019**, 7, 4525-4535	90

592	Core-sheath micro/nano fiber membrane with antibacterial and osteogenic dual functions as biomimetic artificial periosteum for bone regeneration applications. **2019**, 17, 124-136	21
591	Advanced electronic skin devices for healthcare applications. **2019**, 7, 173-197	120
590	A Soft Polydimethylsiloxane Liquid Metal Interdigitated Capacitor Sensor and Its Integration in a Flexible Hybrid System for On-Body Respiratory Sensing. **2019**, 12,	17
589	Semi-Liquid-Metal-(Ni-EGaIn)-Based Ultraconformable Electronic Tattoo. **2019**, 4, 1900183	57
588	Wireless body sensor networks based on metamaterial textiles. **2019**, 2, 243-251	148
587	Bandage-like wearable flexible microfluidic recombinase polymerase amplification sensor for the rapid visual detection of nucleic acids. **2019**, 204, 685-692	37
586	Facile and quick formation of cellulose nanopaper with nanoparticles and its characterization. **2019**, 221, 195-201	3
585	Mechanical anisotropy of two-dimensional metamaterials: a computational study. **2019**, 1, 2891-2900	3
584	Hydrogel-Templated Transfer-Printing of Conductive Nanonetworks for Wearable Sensors on Topographic Flexible Substrates. **2019**, 19, 3684-3691	30
583	A Megatrend Challenging Analytical Chemistry: Biosensor and Chemosensor Concepts Ready for the Internet of Things. **2019**, 119, 7996-8027	132
582	Facile synthesis of flexible Pt/NiO 1D nanohybrids with high electrical properties using electrospinning. **2019**, 30, 10589-10596	1
581	Materials and structural designs of stretchable conductors. **2019**, 48, 2946-2966	189
580	Mechanically Flexible Conductors for Stretchable and Wearable E-Skin and E-Textile Devices. **2019**, 31, e1901408	193
579	An Ultrastretchable and Self-Healable Nanocomposite Conductor Enabled by Autonomously Percolative Electrical Pathways. **2019**, 13, 6531-6539	66
578	Assembly and applications of 3D conformal electronics on curvilinear surfaces. **2019**, 6, 642-683	90
577	Nanofiber-Reinforced Silver Nanowires Network as a Robust, Ultrathin, and Conformable Epidermal Electrode for Ambulatory Monitoring of Physiological Signals. **2019**, 15, e1900755	36
576	Facile preparation of graphene nanowalls/EVA hybrid film for ultraflexible transparent electrodes. **2019**, 23, 1473-1480	2
575	Robust and Wearable Pressure Sensor Assembled from AgNW-Coated PDMS Micropillar Sheets with High Sensitivity and Wide Detection Range. **2019**, 2, 3196-3205	29

574	Accurate, hysteresis-free temperature sensor for health monitoring using a magnetic sensor and pristine polymer.. **2019**, 9, 7885-7889	8
573	Flexible Breathable Nanomesh Electronic Devices for On-Demand Therapy. **2019**, 29, 1902127	57
572	Materials and Design Strategies of Stretchable Electrodes for Electronic Skin and its Applications. **2019**, 107, 2185-2197	41
571	Nanomechanics of low-dimensional materials for functional applications. **2019**, 4, 781-788	17
570	Ag nanowire-based transparent stretchable tactile sensor recognizing strain directions and pressure. **2019**, 30, 315502	12
569	Skin-Mountable Biosensors and Therapeutics: A Review. **2019**, 21, 299-323	27
568	Highly compliant planar Hall effect sensor with sub 200 nT sensitivity. **2019**, 3,	28
567	Programmable super elastic kirigami metallic glasses. **2019**, 169, 107687	13
566	Freestanding Functional Structures by Aerosol-Jet Printing for Stretchable Electronics and Sensing Applications. **2019**, 4, 1900048	21
565	Wire-Shaped and Membrane-Free Fuel Cell Based on Biscrolled Carbon Nanotube Yarn. **2019**, 7, 1900122	4
564	Vapor-printed polymer electrodes for long-term, on-demand health monitoring. **2019**, 5, eaaw0463	38
563	Conjugated polymers and composites for stretchable organic electronics. **2019**, 7, 5534-5552	81
562	Highly sensitive and multifunctional piezoresistive sensor based on polyaniline foam for wearable Human-Activity monitoring. **2019**, 121, 510-516	49
561	Simultaneous electrophysiological recording and self-powered biosignal monitoring using epidermal, nanotexturized, triboelectronic devices. **2019**, 30, 274003	7
560	Second Skin Enabled by Advanced Electronics. **2019**, 6, 1900186	106
559	Toward a new generation of smart skins. **2019**, 37, 382-388	182
558	Bioinspired Adhesive Architectures: From Skin Patch to Integrated Bioelectronics. **2019**, 31, e1803309	126
557	Nanofibers for Biomedical and Healthcare Applications. **2019**, 19, e1800256	115

556	Water Transfer Printing Enhanced by Water-Induced Pattern Expansion: Toward Large-Area 3D Electronics. **2019**, 4, 1800600	22
555	Matrix-Independent Highly Conductive Composites for Electrodes and Interconnects in Stretchable Electronics. **2019**, 11, 8567-8575	45
554	Soft, skin-interfaced wearable systems for sports science and analytics. **2019**, 9, 47-56	51
553	Wearable binary cooperative polypyrrole nanofilms for chemical mapping on skin. **2019**, 7, 5227-5233	8
552	From 2D to 3D: Strain- and elongation-free topological transformations of optoelectronic circuits. **2019**, 116, 3968-3973	15
551	Wearable and Implantable Devices for Cardiovascular Healthcare: from Monitoring to Therapy Based on Flexible and Stretchable Electronics. **2019**, 29, 1808247	207
550	Highly Bendable and Rotational Textile Structure with Prestrained Conductive Sewing Pattern for Human Joint Monitoring. **2019**, 29, 1808369	33
549	"Cut-and-paste" method for the rapid prototyping of soft electronics.. **2019**, 62, 199-208	3
548	Photo-responsive heterojunction nanosheets of reduced graphene oxide for photo-detective flexible energy devices. **2019**, 7, 7736-7744	10
547	Large-area MRI-compatible epidermal electronic interfaces for prosthetic control and cognitive monitoring. **2019**, 3, 194-205	144
546	Materials and Designs for Wearable Photodetectors. **2019**, 31, e1808138	172
545	Una gu□ conceptual para usar y entender Big Data en la investigaci□ cl□ica. **2019**, 30, 83-94	0
544	Battery-Free and Wireless Epidermal Electrochemical System with All-Printed Stretchable Electrode Array for Multiplexed In Situ Sweat Analysis. **2019**, 4, 1800658	68
543	Requirements for Durability Improvement of Conductive Patterns Permeated in Textiles under Cyclic Tensile Deformation. **2019**, 10,	5
542	Flexible and printed biosensors based on organic TFT devices. **2019**, 291-306	2
541	Nano-folded Gold Catalysts for Electroreduction of Carbon Dioxide. **2019**, 19, 9154-9159	17
540	A stretchable laminated GNRs/BNNSs nanocomposite with high electrical and thermal conductivity. **2019**, 11, 20648-20658	21
539	Biomimetics for high-performance flexible tactile sensors and advanced artificial sensory systems. **2019**, 7, 14816-14844	33

538	Digitally printed stretchable electronics: a review. **2019**, 7, 14035-14068		56
537	Nature-inspired rollable electronics. **2019**, 11,		5
536	A Skin-Inspired Stretchable, Self-Healing and Electro-Conductive Hydrogel with A Synergistic Triple Network for Wearable Strain Sensors Applied in Human-Motion Detection. **2019**, 9,		50
535	Highly Ordered 3D Microstructure-Based Electronic Skin Capable of Differentiating Pressure, Temperature, and Proximity. **2019**, 11, 1503-1511		51
534	Heterogeneous Strain Distribution of Elastomer Substrates To Enhance the Sensitivity of Stretchable Strain Sensors. **2019**, 52, 82-90		32
533	Durable Ultraflexible Organic Photovoltaics with Novel Metal-Oxide-Free Cathode. **2019**, 29, 1808378		21
532	Highly Conductive Ag Paste for Recoverable Wiring and Reliable Bonding Used in Stretchable Electronics. **2019**, 11, 3231-3240		19
531	Ultrasoft electronics to monitor dynamically pulsing cardiomyocytes. *Nature Nanotechnology*, **2019**, 14, 156-160	28.7	115
530	Three-Dimensional Stretchable and Transparent Conductors with Controllable Strain-Distribution Based on Template-Assisted Transfer Printing. **2019**, 11, 2140-2148		7
529	Non-Invasive Flexible and Stretchable Wearable Sensors With Nano-Based Enhancement for Chronic Disease Care. **2019**, 12, 34-71		30
528	A nanomesh that syncs with the heart. *Nature Nanotechnology*, **2019**, 14, 104-105	28.7	
527	High-performance stretchable conductive nanocomposites: materials, processes, and device applications. **2019**, 48, 1566-1595		256
526	Wearable Fluid Capture Devices for Electrochemical Sensing of Sweat. **2019**, 11, 238-243		41
525	Flexible Electrochemical Bioelectronics: The Rise of In Situ Bioanalysis. **2020**, 32, e1902083		128
524	Material-Based Approaches for the Fabrication of Stretchable Electronics. **2020**, 32, e1902743		149
523	Mimicking Human and Biological Skins for Multifunctional Skin Electronics. **2020**, 30, 1904523		126
522	Advanced Soft Materials, Sensor Integrations, and Applications of Wearable Flexible Hybrid Electronics in Healthcare, Energy, and Environment. **2020**, 32, e1901924		305
521	Flexible Hybrid Sensors for Health Monitoring: Materials and Mechanisms to Render Wearability. **2020**, 32, e1902133		114

520	Mechanically-Guided Structural Designs in Stretchable Inorganic Electronics. **2020**, 32, e1902254	104
519	Artificial Sensory Memory. **2020**, 32, e1902434	98
518	Kirigami-inspired strain-insensitive sensors based on atomically-thin materials. **2020**, 34, 58-65	33
517	The Era of Digital Health: A Review of Portable and Wearable Affinity Biosensors. **2020**, 30, 1906713	97
516	Multiscale Soft-Hard Interface Design for Flexible Hybrid Electronics. **2020**, 32, e1902278	35
515	Nanomaterial-Enabled Flexible and Stretchable Sensing Systems: Processing, Integration, and Applications. **2020**, 32, e1902343	106
514	Control of thermal deformation with photonic sintering of ultrathin nanowire transparent electrodes. **2020**, 12, 2366-2373	11
513	Printed Organic Transistor-based Biosensors for Non-invasive Sweat Analysis. **2020**, 36, 291-302	18
512	Boronate sol-gel method for one-step fabrication of polyvinyl alcohol hydrogel coatings by simple cast- and dip-coating techniques.. **2019**, 10, 86-94	4
511	Electrothermal patches driving the transdermal delivery of insulin. **2020**, 5, 663-670	14
510	A semi-interpenetrating network ionic hydrogel for strain sensing with high sensitivity, large strain range, and stable cycle performance. **2020**, 385, 123912	58
509	Reviews of wearable healthcare systems: Materials, devices and system integration. **2020**, 140, 100523	107
508	Multiscale porous elastomer substrates for multifunctional on-skin electronics with passive-cooling capabilities. **2020**, 117, 205-213	60
507	Conformal Cu Coating on Electrospun Nanofibers for 3D Electro-Conductive Networks. **2020**, 6, 1900767	4
506	Automatic Transformation of Membrane-Type Electronic Devices into Complex 3D Structures via Extrusion Shear Printing and Thermal Relaxation of Acrylonitrile Butadiene Styrene Frameworks. **2020**, 30, 1907384	3
505	Bio-photocapacitive tactile sensors as a touch-to-audio braille reader and solar capacitor. **2020**, 7, 866-876	25
504	Emerging intraoral biosensors. **2020**, 8, 3341-3356	6
503	Physical sensors for skin-inspired electronics. **2020**, 2, 184-211	80

502	All-Fiber Structured Electronic Skin with High Elasticity and Breathability. **2020**, 30, 1908411	99
501	Nanostructured Architectures for Biomolecular Detection inside and outside the Cell. **2020**, 30, 1907701	12
500	Emerging Soft Conductors for Bioelectronic Interfaces. **2020**, 30, 1907184	38
499	A breathable, sensitive and wearable piezoresistive sensor based on hierarchical micro-porous PU@CNT films for long-term health monitoring. **2020**, 200, 108419	17
498	Skin Impedance Measurements with Nanomesh Electrodes for Monitoring Skin Hydration. **2020**, 9, e2001322	15
497	Electrical properties of carbon nanotube/liquid metal/rubber nanocomposites. **2020**, 10, 105106	2
496	Self-Assembly of Metallacages into Centimeter Films with Tunable Size and Emissions. **2020**, 142, 17933-17937	11
495	Pencil-paper on-skin electronics. **2020**, 117, 18292-18301	52
494	A high performance wearable strain sensor with advanced thermal management for motion monitoring. **2020**, 11, 3530	141
493	A Bioinspired, Durable, and Nondisposable Transparent Graphene Skin Electrode for Electrophysiological Signal Detection. **2020**, 2, 999-1007	19
492	Recent advances in bioelectronics chemistry. **2020**, 49, 7978-8035	30
491	Flexible and Wearable Power Sources for Next-Generation Wearable Electronics. **2020**, 3, 1262-1274	14
490	Temporary tattoo as unconventional substrate for conformable and transferable electronics on skin and beyond. **2020**, 3, 032003	15
489	Polyester-Polysiloxane Hyperbranched Block Polymers for Transparent Flexible Materials. **2020**, 5, 29513-29519	2
488	Nanomesh pressure sensor for monitoring finger manipulation without sensory interference. **2020**, 370, 966-970	145
487	The more and less of electronic-skin sensors. **2020**, 370, 910-911	30
486	Progress in the Applications of Smart Piezoelectric Materials for Medical Devices. **2020**, 12,	27
485	Wearable sensors for continuous oral cavity and dietary monitoring toward personalized healthcare and digital medicine. **2021**, 145, 7796-7808	7

484	A Compliant Ionic Adhesive Electrode with Ultralow Bioelectronic Impedance. **2020**, 32, e2003723	33
483	Smart materials for smart healthcare□moving from sensors and actuators to self-sustained nanoenergy nanosystems. **2020**, 1, 92-124	41
482	Safety and effectiveness evaluation of flexible electronic materials for next generation wearable and implantable medical devices. **2020**, 35, 100939	10
481	Highly conductive, stretchable, and breathable epidermal electrode based on hierarchically interactive nano-network. **2020**, 12, 16053-16062	14
480	Skin-Integrated Wearable Systems and Implantable Biosensors: A Comprehensive Review. **2020**, 10,	60
479	A Highly Sensitive, Reliable, and High-Temperature-Resistant Flexible Pressure Sensor Based on Ceramic Nanofibers. **2020**, 7, 2000258	33
478	Ultra-conformal drawn-on-skin electronics for multifunctional motion artifact-free sensing and point-of-care treatment. **2020**, 11, 3823	94
477	Devising Materials Manufacturing Toward Lab-to-Fab Translation of Flexible Electronics. **2020**, 32, e2001903	23
476	Wearable MXene nanocomposites-based strain sensor with tile-like stacked hierarchical microstructure for broad-range ultrasensitive sensing. **2020**, 78, 105187	60
475	Permeable Weldable Elastic Fiber Conductors for Wearable Electronics. **2020**, 12, 36609-36619	4
474	A durable nanomesh on-skin strain gauge for natural skin motion monitoring with minimum mechanical constraints. **2020**, 6, eabb7043	61
473	A metal-electrode-free, fully integrated, soft triboelectric sensor array for self-powered tactile sensing. **2020**, 6, 59	22
472	Emerging Frontier of Peripheral Nerve and Organ Interfaces. **2020**, 108, 270-285	8
471	Nanomesh Organic Electrochemical Transistor for Comfortable On-Skin Electrodes with Local Amplifying Function. **2020**, 2, 3601-3609	12
470	Electrically compensated, tattoo-like electrodes for epidermal electrophysiology at scale. **2020**, 6,	51
469	Stretchable Triboelectric Nanogenerators for Energy Harvesting and Motion Monitoring. **2020**, 1, 109-116	6
468	Nanocomposite hydrogel-based strain and pressure sensors: a review. **2020**, 8, 18605-18623	83
467	Recent Technological Advances in Fabrication and Application of Organic Electrochemical Transistors. **2020**, 5, 2000523	16

466	Skin-Like Stretchable Fuel Cell Based on Gold-Nanowire-Impregnated Porous Polymer Scaffolds. **2020**, 16, e2003269	9
465	Ultrathin, Stretchable, and Breathable Epidermal Electronics Based on a Facile Bubble Blowing Method. **2020**, 6, 2000306	15
464	Recent Progress in Nanomaterial Enabled Chemical Sensors for Wearable Environmental Monitoring Applications. **2020**, 30, 2005703	37
463	Electrochemical detection of ascorbic acid in artificial sweat using a flexible alginate/CuO-modified electrode. **2020**, 187, 520	16
462	Hierarchically patterned self-powered sensors for multifunctional tactile sensing. **2020**, 6, eabb9083	110
461	Wearable Biosensors for Body Computing. **2020**, 31, 2008087	22
460	Inkjet printing for flexible and wearable electronics. **2020**, 8, 120705	30
459	Skin-Integrated Vibrohaptic Interfaces for Virtual and Augmented Reality. **2020**, 31, 2008805	23
458	The new generation of soft and wearable electronics for health monitoring in varying environment: From normal to extreme conditions. **2020**, 41, 219-242	48
457	High precision epidermal radio frequency antenna via nanofiber network for wireless stretchable multifunction electronics. **2020**, 11, 5629	24
456	Mechanics of 2D Materials-Based Cellular Kirigami Structures: A Computational Study. **2020**, 72, 4706-4717	2
455	A strain-adaptive, self-healing, breathable and perceptive bottle-brush material inspired by skin. **2020**, 8, 24645-24654	11
454	Soft sensors for a sensing-actuation system with high bladder voiding efficiency. **2020**, 6, eaba0412	13
453	Highly Sensitive, Breathable, and Flexible Pressure Sensor Based on Electrospun Membrane with Assistance of AgNW/TPU as Composite Dielectric Layer. **2020**, 20,	22
452	Synthesis of Hydroxylatopillar[6]arene-Controlled Gold Nanoparticles-Cellulose Nanocrystals and Their Applications. **2020**, 36, 6399-6410	2
451	An On-Skin Electrode with Anti-Epidermal-Surface-Lipid Function Based on a Zwitterionic Polymer Brush. **2020**, 32, e2001130	35
450	Locally coupled electromechanical interfaces based on cytoadhesion-inspired hybrids to identify muscular excitation-contraction signatures. **2020**, 11, 2183	31
449	Plant-Based Biodegradable Capacitive Tactile Pressure Sensor Using Flexible and Transparent Leaf Skeletons as Electrodes and Flower Petal as Dielectric Layer. **2020**, 4, 2000056	21

448	Recent Advances in Flexible and Stretchable Sensing Systems: From the Perspective of System Integration. **2020**, 14, 6449-6469	39
447	Solution-Processed Submicron Free-Standing, Conformal, Transparent, Breathable Epidermal Electrodes. **2020**, 12, 23689-23696	15
446	Biopower-on-Skin: Electricity generation from sweat-eating bacteria for self-powered E-Skins. **2020** , 75, 104994	27
445	Scalable fabrication of highly crosslinked conductive nanofibrous films and their applications in energy storage and electromagnetic interference shielding. **2020**, 400, 125322	24
444	Fabrication of a Postfunctionalizable, Biorepellent, Electroactive Polyurethane Interface on a Gold Surface by Surface-Assisted Polymerization. **2020**, 36, 6828-6836	2
443	Skin-inspired electronics: emerging semiconductor devices and systems. **2020**, 41, 041601	33
442	Skin-interfaced sensors in digital medicine: from materials to applications. **2020**, 2, 1414-1445	68
441	Safety Assessment of Microneedle Technology for Transdermal Drug Delivery: A Review. **2020**, 3, 2000033	7
440	Broad Bandwidth, Self-Powered Acoustic Sensor Created by Dynamic Near-Field Electrospinning of Suspended, Transparent Piezoelectric Nanofiber Mesh. **2020**, 16, e2000581	17
439	Unsymmetrical Alveolate PMMA/MWCNT Film as a Piezoresistive E-Skin with Four-Dimensional Resolution and Application for Detecting Motion Direction and Airflow Rate. **2020**, 12, 30896-30904	15
438	Wearable and Stretchable Strain Sensors: Materials, Sensing Mechanisms, and Applications. **2020**, 2, 2000039	120
437	Cryo-Transferred Ultrathin and Stretchable Epidermal Electrodes. **2020**, 16, e2000450	14
436	Polymer nanocomposite meshes for flexible electronic devices. **2020**, 107, 101279	44
435	Damage-free Metal Electrode Transfer to Monolayer Organic Single Crystalline Thin Films. **2020**, 10, 4702	6
434	All-nanofiber-based, ultrasensitive, gas-permeable mechanoacoustic sensors for continuous long-term heart monitoring. **2020**, 117, 7063-7070	53
433	A Wearable Capacitive Sensor Based on Ring/Disk-Shaped Electrode and Porous Dielectric for Noncontact Healthcare Monitoring. **2020**, 4, 1900079	14
432	Multi-Arch-Structured All-Carbon Aerogels with Superelasticity and High Fatigue Resistance as Wearable Sensors. **2020**, 12, 16822-16830	20
431	Breathable, large-area epidermal electronic systems for recording electromyographic activity during operant conditioning of H-reflex. **2020**, 165, 112404	13

430	Sign-to-speech translation using machine-learning-assisted stretchable sensor arrays. **2020**, 3, 571-578	246
429	Advances in Materials for Soft Stretchable Conductors and Their Behavior under Mechanical Deformation. **2020**, 12,	1
428	Durable, Sensitive, and Wide-Range Wearable Pressure Sensors Based on Wavy-Structured Flexible Conductive Composite Film. **2020**, 305, 2000206	14
427	Conductive graphene-based E-textile for highly sensitive, breathable, and water-resistant multimodal gesture-distinguishable sensors. **2020**, 8, 14778-14787	20
426	Interconnected Heat-Press-Treated Gold Nanomesh Conductors for Wearable Sensors. **2020**, 3, 1848-1854	13
425	Fabrication of Highly Dense Silk Fibroin Biomemristor Array and Its Resistive Switching Characteristics. **2020**, 5, 1900991	13
424	Ultra-flexibility, robust waterproof and breathability of polyvinylidene fluoride membrane blended silver nitrate for electronic skin substrate. **2020**, 53, 195403	4
423	Epidermal electrodes with enhanced breathability and high sensing performance. **2020**, 12, 100191	11
422	Flexible inorganic bioelectronics. **2020**, 4,	69
421	Solution-Processed Transparent Electrodes for Emerging Thin-Film Solar Cells. **2020**, 120, 2049-2122	76
420	E-skin and wearable systems for health care. **2020**, 133-178	4
419	Multiaxially-stretchable kirigami-patterned mesh design for graphene sensor devices. **2020**, 13, 1406-1412	11
418	Highly Bendable Planar Hall Resistance Sensor. **2020**, 11, 1-5	3
417	Recent advances of wearable and flexible piezoresistivity pressure sensor devices and its future prospects. **2020**, 6, 86-101	40
416	Recent insights into functionalized electrospun nanofibrous films for chemo-/bio-sensors. **2020**, 124, 115813	34
415	Ultrasensitive, Low-Voltage Operational, and Asymmetric Ionic Sensing Hydrogel for Multipurpose Applications. **2020**, 30, 1909616	16
414	Nonintrusive Monitoring of Mental Fatigue Status Using Epidermal Electronic Systems and Machine-Learning Algorithms. **2020**, 5, 1305-1313	14
413	Enhanced Skin Adhesive Property of Hydrophobically Modified Poly(vinyl alcohol) Films. **2020**, 5, 1519-1527	15

412	Cyber-Physiochemical Interfaces. **2020**, 32, e1905522	37
411	Mechanically Interlocked Hydrogel–Elastomer Hybrids for On-Skin Electronics. **2020**, 30, 1909540	55
410	Stretchable and Wearable Resistive Switching Random-Access Memory. **2020**, 2, 2000007	8
409	Gas-Permeable, Ultrathin, Stretchable Epidermal Electronics with Porous Electrodes. **2020**, 14, 5798-5805	74
408	Electronic Skins for Robotics and Wearables. **2020**,	
407	Self-Powered Flexible TiO2 Fibrous Photodetectors: Heterojunction with P3HT and Boosted Responsivity and Selectivity by Au Nanoparticles. **2020**, 30, 2001604	38
406	Soft-Hard Composites for Bioelectric Interfaces. **2020**, 2, 519-534	8
405	Wireless Epidermal Six-Axis Inertial Measurement Units for Real-Time Joint Angle Estimation. **2020**, 10, 2240	4
404	Tuning the Rigidity of Silk Fibroin for the Transfer of Highly Stretchable Electronics. **2020**, 30, 2001518	16
403	An Assistive Magnetic Skin System: Enabling Technology for Quadriplegics. **2021**, 23, 2000944	3
402	Performance Evaluation of a Wearable Tattoo Electrode Suitable for High-Resolution Surface Electromyogram Recording. **2021**, 68, 1389-1398	5
401	Enhancing the conductivity of PEDOT:PSS films for biomedical applications via hydrothermal treatment. **2021**, 171, 112717	13
400	Transparent Soft Actuators/Sensors and Camouflage Skins for Imperceptible Soft Robotics. **2021**, 33, e2002397	39
399	Flexible and Stretchable Fiber-Shaped Triboelectric Nanogenerators for Biomechanical Monitoring and Human-Interactive Sensing. **2021**, 31, 2006679	59
398	Electronic Skins for Healthcare Monitoring and Smart Prostheses. **2021**, 4, 629-650	3
397	Materials, Devices, and Systems of On-Skin Electrodes for Electrophysiological Monitoring and Human-Machine Interfaces. **2021**, 8, 2001938	60
396	3D Interfacing between Soft Electronic Tools and Complex Biological Tissues. **2021**, 33, e2004425	25
395	Smart Stretchable Electronics for Advanced Human–Machine Interface. **2021**, 3, 2000157	12

394	Experimental methods in chemical engineering: Barrier properties. **2021**, 99, 1068-1081	0
393	Structural Engineering for High-Performance Flexible and Stretchable Strain Sensors. **2021**, 3, 2000194	6
392	The impact of chemical engineering and technological advances on managing diabetes: present and future concepts. **2021**, 50, 2102-2146	12
391	Enhanced skin adhesive property of electrospun □cyclodextrin/nonanyl group-modified poly(vinyl alcohol) inclusion complex fiber sheet.. **2021**, 11, 8759-8766	
390	3D printed smart silk wearable sensors. **2021**, 146, 1552-1558	6
389	Wearable porous PDMS layer of high moisture permeability for skin trouble reduction. **2021**, 11, 938	4
388	Detecting subtle yet fast skeletal muscle contractions with ultrasoft and durable graphene-based cellular materials.. **2022**, 9, nwab184	1
387	All-Organic, Solution-Processed, Extremely Conformal, Mechanically Biocompatible, and Breathable Epidermal Electrodes. **2021**, 13, 5660-5667	6
386	Functionalized Elastomers for Intrinsically Soft and Biointegrated Electronics. **2021**, 10, e2002105	13
385	Recyclable conductive nanoclay for direct in situ printing flexible electronics. **2021**, 8, 2006-2017	15
384	Well-rounded devices: the fabrication of electronics on curved surfaces - a review. **2021**, 8, 1926-1958	13
383	Fibre electronics: towards scaled-up manufacturing of integrated e-textile systems. **2021**, 13, 12818-12847	9
382	Strain-insensitive intrinsically stretchable transistors and circuits. **2021**, 4, 143-150	56
381	A hierarchical porous carbon-nanotube skeleton for sensing films with ultrahigh sensitivity, stretchability, and mechanical compliance. **2021**, 9, 4317-4325	6
380	Highly Breathable and Stretchable Strain Sensors with Insensitive Response to Pressure and Bending. **2021**, 31, 2007622	34
379	Vinylboronic acid pinacol ester as a vinyl alcohol-precursor monomer in radical copolymerization with styrene. **2021**, 57, 7410-7413	2
378	Inkjet-printed, nanofiber-based soft capacitive pressure sensors for tactile sensing. **2021**, 1-1	3
377	Highly stretchable multilayer electronic circuits using biphasic gallium-indium. **2021**, 20, 851-858	70

376	Interface Design for Stretchable Electronic Devices. **2021**, 8, 2004170	16
375	Permeable superelastic liquid-metal fibre mat enables biocompatible and monolithic stretchable electronics. **2021**, 20, 859-868	142
374	AgNW/stereocomplex-type polylactide biodegradable conducting film and its application in flexible electronics. **2021**, 32, 6080-6093	1
373	Preparation and Applications of Electrospun Optically Transparent Fibrous Membrane. **2021**, 13,	8
372	Flexible Sensors Based on Organic–Inorganic Hybrid Materials. **2021**, 6, 2000889	10
371	Skin Electronics: Next-Generation Device Platform for Virtual and Augmented Reality. **2021**, 31, 2009602	42
370	Nanowire-Based Soft Wearable Human–Machine Interfaces for Future Virtual and Augmented Reality Applications. **2021**, 31, 2008347	25
369	Fully Organic Self-Powered Electronic Skin with Multifunctional and Highly Robust Sensing Capability. **2021**, 2021, 9801832	2
368	Recent Advancements in Development of Wearable Gas Sensors. **2021**, 6, 2000883	32
367	Hand Gesture Recognition Using Single Patchable Six-Axis Inertial Measurement Unit via Recurrent Neural Networks. **2021**, 21,	6
366	Biodegradable Metallic Glass for Stretchable Transient Electronics. **2021**, 8, 2004029	3
365	Wearable sensors: At the frontier of personalised health monitoring, smart prosthetics and assistive technologies. **2021**, 176, 112946	33
364	Electronic skin: from flexibility to a sense of touch. **2021**, 591, 685-687	30
363	Three-dimensional fast elemental mapping by soft X-ray dual-energy focal stacks imaging. **2021**, 28, 924-929	
362	Neonatal wearable device for colorimetry-based real-time detection of jaundice with simultaneous sensing of vitals. **2021**, 7,	11
361	Basics of teaching electrochemical impedance spectroscopy of electrolytes for ion-rechargeable batteries – part 1: a good practice on estimation of bulk resistance of solid polymer electrolytes. **2021**, 3, 105-115	2
360	Fusing Stretchable Sensing Technology with Machine Learning for Human–Machine Interfaces. **2021**, 31, 2008807	26
359	Electrospun nanofiber-based soft electronics. **2021**, 13,	41

358	Development of electrical transduction based wearable tactile sensors for human vital signs monitor: Fundamentals, methodologies and applications. **2021**, 321, 112582	4
357	Emerging Functional Biomaterials as Medical Patches. **2021**, 15, 5977-6007	14
356	Ethical Considerations of Wearable Technologies in Human Research. **2021**, 10, e2100127	5
355	Biosensors Based Medical Devices For Disease Monitoring Therapy. 263-278	
354	Laser-induced graphene for bioelectronics and soft actuators. **2021**, 14, 1-18	12
353	Haze-Suppressed Transparent Electrodes Using IZO/Ag/IZO Nanomesh for Highly Flexible and Efficient Blue Organic Light-Emitting Diodes. **2021**, 9, 2002010	3
352	Biocompatible peptide hydrogels with excellent antibacterial and catalytic properties for electrochemical sensing application. **2021**, 1154, 338295	9
351	Biointerfaced sensors for biodiagnostics. **2021**, 2, 20200172	9
350	Liquid-Metal-Based Dynamic Thermoregulating and Self-Powered Electronic Skin. **2021**, 31, 2100940	36
349	Fabrication, characterization and applications of graphene electronic tattoos. **2021**, 16, 2395-2417	13
348	One-Step Fabricated and Solution-Processed Hybrid Gate Dielectrics for Low-Voltage Organic Thin-Film Transistors. **2021**, 42, 983-987	1
347	A review of geometric and structural design for reliable flexible electronics. **2021**, 31, 074001	5
346	2D Materials for Skin-Mountable Electronic Devices. **2021**, 33, e2005858	17
345	Flexible Wearable Sensors for Cardiovascular Health Monitoring. **2021**, 10, e2100116	24
344	Recent Applications of Different Microstructure Designs in High Performance Tactile Sensors: A Review. **2021**, 21, 10291-10303	10
343	55-2: Invited Paper: Nanomesh Based on Skin Electronics. **2021**, 52, 768-771	
342	Ultrastretchable and Washable Conductive Microtextiles by Coassembly of Silver Nanowires and Elastomeric Microfibers for Epidermal Human–Machine Interfaces. **2021**, 3, 912-920	20
341	Imperceptible Supercapacitors with High Area-Specific Capacitance. **2021**, 17, e2101704	7

340	A fully integrated wearable electronic device with breathable and washable properties for long-term health monitoring. **2021**, 322, 112611	9
339	Multifunctional and Ultrathin Electronic Tattoo for On-Skin Diagnostic and Therapeutic Applications. **2021**, 33, e2008308	27
338	Nanoscale engineering of conducting polymers for emerging applications in soft electronics. **2021**, 14, 3112-3125	5
337	Flexible Electrodes for In Vivo and In Vitro Electrophysiological Signal Recording. **2021**, 10, e2100646	15
336	Differential cardiopulmonary monitoring system for artifact-canceled physiological tracking of athletes, workers, and COVID-19 patients. **2021**, 7,	11
335	Metallacycles, metallacages, and their aggregate/optical behavior. e94	7
334	A bio-adhesive ion-conducting organohydrogel as a high-performance non-invasive interface for bioelectronics. **2021**, 427, 130886	4
333	Highly Stretchable and Permeable Conductors Based on Shrinkable Electrospun Fiber Mats. **2021**, 3, 302	6
332	Seeking advanced thermal management for stretchable electronics. **2021**, 5,	10
331	Long-term reliable physical health monitoring by sweat pore-inspired perforated electronic skins. **2021**, 7,	24
330	Highly Thermal-Wet Comfortable and Conformal Silk-Based Electrodes for On-Skin Sensors with Sweat Tolerance. **2021**, 15, 9955-9966	21
329	Assemblies and composites of gold nanostructures for functional devices. e57	0
328	Transparent Omni-Directional Stretchable Circuit Lines Made by a Junction-Free Grid of Expandable Au Lines. **2021**, 33, e2100299	6
327	Wearable electrochemical flexible biosensors: With the focus on affinity biosensors. **2021**, 32, 100403	10
326	Spider-Web and Ant-Tentacle Doubly Bio-Inspired Multifunctional Self-Powered Electronic Skin with Hierarchical Nanostructure. **2021**, 8, e2004377	23
325	Capacitive Coupling of Conducting Polymer Tattoo Electrodes with the Skin. **2021**, 8, 2100352	2
324	Self-reconfigurable high-weight-per-volume-gelatin films for all-solution-processed on-skin electronics with ultra-conformal contact. **2021**, 184, 113231	7
323	Enhanced skin adhesive property of □-cyclodextrin/nonanyl group-modified poly(vinyl alcohol) inclusion complex film. **2021**, 263, 117993	1

322	Stretchable, Rehealable, Recyclable, and Reconfigurable Integrated Strain Sensor for Joint Motion and Respiration Monitoring. **2021**, 2021, 9846036	7
321	Mechanomaterials: A Rational Deployment of Forces and Geometries in Programming Functional Materials. **2021**, 33, e2007977	10
320	Review: Sensors for Biosignal/Health Monitoring in Electronic Skin. **2021**, 13,	4
319	Stable epidermal electronic device with strain isolation induced by in situ Joule heating. **2021**, 7, 56	3
318	A Conformable, Gas-Permeable, and Transparent Skin-Like Micromesh Architecture for Glucose Monitoring. **2021**, 10, e2100046	2
317	Breathable, Degradable Piezoresistive Skin Sensor Based on a Sandwich Structure for High-Performance Pressure Detection. **2021**, 7, 2100368	8
316	Trigger-Detachable Hydrogel Adhesives for Bioelectronic Interfaces. **2021**, 31, 2106446	18
315	Evolvable Skin Electronics by In Situ and In Operando Adaptation. 2106329	7
314	Organic□inorganic hybrid gate dielectric using bifunctional polyhedral oligomeric silsesquioxane for low-voltage organic thin-film transistors.	
313	Recent advances in nanogenerators-based flexible electronics for electromechanical biomonitoring. **2021**, 186, 113290	10
312	Highly conductive and elastic nanomembrane for skin electronics. **2021**, 373, 1022-1026	41
311	Delamination-Resistant Imperceptible Bioelectrode for Robust Electrophysiological Signals Monitoring. **2021**, 3, 1385-1393	3
310	Stretchable anisotropic conductive film (S-ACF) for electrical interfacing in high-resolution stretchable circuits. **2021**, 7,	10
309	16.4: A multifunctional flexible resistive sensor with a Carbon Nanotube-Liquid Crystal-PDMS Composite. **2021**, 52, 224-227	
308	Skin-electrode iontronic interface for mechanosensing. **2021**, 12, 4731	19
307	Printed and Laser-Scribed Stretchable Conductors on Thin Elastomers for Soft and Wearable Electronics. **2021**, 8,	0
306	iSens: A Fiber-Based, Highly Permeable and Imperceptible Sensor Design. **2021**, 33, e2102736	2
305	Decoding Electrophysiological Signals with Organic Electrochemical Transistors. **2021**, 21, e2100187	2

304	Nanomaterials and their applications on bio-inspired wearable electronics. **2021**, 32,	6
303	A Super-Flexible and Transparent Wood Film/Silver Nanowire Electrode for Optical and Capacitive Dual-mode Sensing Wood-based Electronic Skin. **2021**, 132152	8
302	Ubiquitous conformable systems for imperceptible computing. **2021**, ahead-of-print,	2
301	A Tension/Pressure Integrated Resistive Sensor Comprising of a PDMS-LC-MWCNT Composite. **2021**, 21,	1
300	Transferred Laser-Scribed Graphene-Based Durable and Permeable Strain Sensor. **2021**, 8, 2100625	1
299	Toughening of Bioceramic Composites for Bone Regeneration. **2021**, 5, 259	4
298	Skin-Integrated Devices with Soft, Holey Architectures for Wireless Physiological Monitoring, With Applications in the Neonatal Intensive Care Unit. **2021**, 33, e2103974	5
297	Conformal electrodes for on-skin digitalization. **2021**, 2, 252-262	5
296	Flexible microhyperboloids facets giant sensitive ultra-low pressure sensor. **2021**, 328, 112767	4
295	In´vivo analytical techniques facilitated by contemporary materials. **2021**, 142, 116290	2
294	Bio-inspired Janus structural color films as visually flexible electronics. **2021**, 24, 101124	4
293	Effect of interfacial properties of filled carbon black nanoparticles on the conductivity of nanocomposite. 51604	1
292	3D Printing of Hydrogels for Stretchable Ionotronic Devices. 2107437	10
291	Robust, self-adhesive, reinforced polymeric nanofilms enabling gas-permeable dry electrodes for long-term application. **2021**, 118,	13
290	Research progress of flexible wearable pressure sensors. **2021**, 330, 112838	12
289	Low Cost and Highly Sensitive Flexible Pressure Sensor Based on Branched Micro-structures. **2021**, 307, 130977	1
288	Biomaterials-based bioengineering strategies for bioelectronic medicine. **2021**, 146, 100630	4
287	A highly stretchable and breathable polyurethane fibrous membrane sensor for human motion monitoring and voice signal recognition. **2021**, 331, 112974	4

286	A novel intrinsically strain sensor for large strain detection. **2021**, 332, 113081	0
285	Free-standing and ionomer-free 3D platinum nanotrough fiber network electrode for proton exchange membrane fuel cells. **2021**, 298, 120504	6
284	A dual-mode electronic skin textile for pressure and temperature sensing. **2021**, 425, 130599	16
283	Enhanced biocompatibility and multidirectional wet adhesion of insect-like synergistic wrinkled pillars with microcavities. **2022**, 429, 132467	1
282	Soft Gold Nanowire Sponges for Strain-insensitive Conductors, Wearable Energy Storage and Catalytic Converters.	0
281	Materials, Devices, and Applications for Wearable and Implantable Electronics. **2021**, 3, 485-503	10
280	An on-demand plant-based actuator created using conformable electrodes. **2021**, 4, 134-142	28
279	Water-Resistant Conformal Hybrid Electrodes for Aquatic Endurable Electrocardiographic Monitoring. **2020**, 32, e2001496	66
278	High-Performance Flexible Bioelectrocatalysis Bioassay System Based on a Triphase Interface. **2020**, 7, 1902172	5
277	Bioinspired Prosthetic Interfaces. **2020**, 5, 1900856	21
276	Electronic-ECM: A Permeable Microporous Elastomer for an Advanced Bio-Integrated Continuous Sensing Platform. **2020**, 5, 2000242	3
275	All-in-one hydrolyzed keratin protein-modified polyacrylamide composite hydrogel transducer. **2020**, 398, 125555	28
274	An Atlas for Large-Area Electronic Skins: From Materials to Systems Design. **2020**,	3
273	Low-Hysteresis and Ultrasensitive Microcellular Structures for Wearable Electronic Applications. **2021**, 13, 1632-1643	7
272	Wireless battery-free body sensor networks using near-field-enabled clothing. **2020**, 11, 444	85
271	Capturing subtle changes during plant growth using wearable mechanical sensors fabricated through liquid-phase fusion. **2020**,	1
270	Mechanics of Regular-Shape Nanomeshes for Transparent and Stretchable Devices. **2020**, 87,	4
269	A skin-inspired tactile sensor for smart prosthetics. **2018**, 3,	117

268	Skin Biosensing and Bioanalysis: what the Future Holds. **2018**, 1, 124-127	1
267	Biocompatible and Biodegradable Functional Polysaccharides for Flexible Humidity Sensors. **2020**, 2020, 8716847	29
266	Stretchable, Patch-Type, Wireless, 6-axis Inertial Measurement Unit for Mobile Health Monitoring. 14, 16-21	4
265	Biospired Janus Silk E-Textiles with Wet-Thermal Comfort for Highly Efficient Biofluid Monitoring. **2021**, 21, 8880-8887	16
264	Function Expansion of Smart Energy Fibers and Textiles. **2021**, 231-271	
263	Integrated All-Fiber Electronic Skin toward Self-Powered Sensing Sports Systems. **2021**, 13, 50329-50337	14
262	Phase-Rich Laser-Induced Hierarchically Interactive MXene Reinforced Carbon Nanofibers for Multifunctional Breathable Bioelectronics. 2107969	3
261	Soft wearable sensors for monitoring symptoms of COVID-19 and other respiratory diseases: a review. **2022**, 4, 012001	2
260	Smart Chemical Engineering-based Lightweight and Miniaturized Attachable Systems for Advanced Drug Delivery and Diagnostics. **2021**, e2106701	3
259	Smart Personal Protective Equipment (PPE): Current PPE Needs, Opportunities for Nanotechnology and e-Textiles.	2
258	Lithographically patterned stretchable metallic microwiring on electrospun nanofiber mats. **2021**, 39, 062801	2
257	Comfy wirewear. **2017**, 9,	
256	Future Directions. **2020**, 157-166	
255	Materials for implantable surface electrode arrays: current status and future directions. **2021**, e2107207	4
254	Permeable Conductors for Wearable and On-Skin Electronics. 2100135	12
253	Smart Face Mask Based on an Ultrathin Pressure Sensor for Wireless Monitoring of Breath Conditions. **2021**, e2107758	15
252	Nano Foldaway Skin-like E-interface for Detecting Human Bioelectrical Signals. **2021**, 13, 148-154	2
251	Flexible H2S sensors: Fabricated by growing NO2-UiO-66 on electrospun nanofibers for detecting ultralow concentration H2S. **2022**, 573, 151446	1

250	Minimally Invasive Technologies for Biosensing. **2020**, 193-223	
249	Dissecting Biological and Synthetic Soft-Hard Interfaces for Tissue-Like Systems. **2021**,	5
248	Flexible Transparent Electrochemical Energy Conversion and Storage: from Electrode Structures to Integrated Applications.	2
247	Significance of Flexible Substrates for Wearable and Implantable Devices: Recent Advances and Perspectives. 2100773	9
246	Study on Folding-Reliability of Wearable Biometric Band. **2020**,	
245	Recent Advances in Multiresponsive Flexible Sensors towards E-skin: A Delicate Design for Versatile Sensing. **2021**, e2103734	10
244	Stretchable Conductive Fabric Enabled By Surface Functionalization of Commercial Knitted Cloth. **2021**, 13, 55656-55665	1
243	Designable Integration of Silicide Nanowire Springs as Ultra-Compact and Stretchable Electronic Interconnections. **2021**, e2104690	1
242	A Flexible and Ultra-Highly Sensitive Tactile Sensor through a Parallel Circuit by a Magnetic Aligned Conductive Composite.. **2022**,	2
241	Robust tattoo electrode prepared by paper-assisted water transfer printing for wearable health monitoring. **2022**, 1-1	2
240	Multimodal sensing and therapeutic systems for wound healing and management: A review. **2022**, 4, 100075	4
239	Challenges and emerging opportunities in transistor-based ultrathin electronics: design and fabrication for healthcare applications.	1
238	Pt Metallacage-based centimeter films for smart emissive poly(N-isopropylacrylamide) hydrogel devices. **2022**, 277, 125544	2
237	Air-permeable electrode for highly sensitive and noninvasive glucose monitoring enabled by graphene fiber fabrics. **2022**, 93, 106904	5
236	Laser-Induced Graphene and Its Applications in Soft (Bio)Sensors. **2022**, 111-133	
235	Recent Advances in Wearable Optical Sensor Automation Powered by Battery versus Skin-like Battery-Free Devices for Personal Healthcare-A Review.. **2022**, 12,	4
234	Highly sensitive, flexible and biocompatible temperature sensor utilizing ultra-long Au@AgNW-based polymeric nanocomposites.. **2022**,	2
233	Electronic Tattoo with Transferable Printed Electrodes and Interconnects for Wireless Electrophysiology Monitoring. 2101496	1

232	Multifaceted, printable skin-integrated electronics for monitoring physiological functions. **2022**, 10, 1479-1487	1
231	All-Nanofiber-Based Janus Epidermal Electrode with Directional Sweat Permeability for Artifact-Free Biopotential Monitoring.. **2022**, e2106477	5
230	A New Class of Electronic Devices Based on Flexible Porous Substrates.. **2022**, e2105084	5
229	An intelligent nanomesh-reinforced graphene pressure sensor with an ultra large linear range.	0
228	Printing thermoelectric inks toward next-generation energy and thermal devices. **2021**,	6
227	Kirigami-inspired Biodesign for Applications in Healthcare.. **2022**, e2109550	3
226	Recent Advances in Intelligent Wearable Medical Devices Integrating Biosensing and Drug Delivery.. **2022**, e2108491	7
225	Electrical Failure Mechanism in Stretchable Thin-Film Conductors.. **2022**,	1
224	Designing wearable microgrids: towards autonomous sustainable on-body energy management. **2022**, 15, 82-101	11
223	Biomimetic Hierarchically Silver Nanowire Interwoven MXene Mesh for Flexible Transparent Electrodes and Invisible Camouflage Electronics.. **2022**,	5
222	Hetero-Integration of Silicon Nanomembranes with 2D Materials for Bioresorbable, Wireless Neurochemical System.. **2022**, e2108203	3
221	Highly Precise, Continuous, Long-term Monitoring of Skin Electrical Resistance by Nanomesh Electrodes.. **2022**, e2102425	2
220	Recent advances in flexible and wearable sensors for monitoring chemical molecules.. **2022**,	6
219	Recent Progress in Printed Physical Sensing Electronics for Wearable Health-monitoring Devices: A Review. **2022**, 1-1	7
218	Vertical graphene on flexible substrate, overcoming limits of crack-based resistive strain sensors. **2022**, 6,	5
217	Highly Crosslinked Conductive Polymer Nanofibrous Films for High-Rate Solid-State Supercapacitors and Electromagnetic Interference Shielding. 2102115	1
216	Life cycle assessment of an all-organic battery: Hotspots and opportunities for improvement. **2022**, 337, 130454	0
215	Hydrophobic, flexible electromagnetic interference shielding films derived from hydrolysate of waste leather scraps.. **2022**, 613, 396-405	3

214	Modular penetration and controlled release (MP-CR): improving the internal modification of natural hierarchical materials with smart nanoparticles.. **2022**,	1
213	Intelligent and highly sensitive strain sensor based on indium tin oxide micromesh with a high crack density.. **2022**,	1
212	Washable, Inkjet-Printed Flexible Tactile Sensor on Fabric with Temperature Tolerance. **2022**,	
211	Recent advances in multi-mode haptic feedback technologies towards wearable interfaces. **2022**, 22, 100602	4
210	Sweat-Permeable, Biodegradable, Transparent and Self-powered Chitosan-Based Electronic Skin with Ultrathin Elastic Gold Nanofibers. 2112241	9
209	An Ultraflexible and Transparent Graphene-Based Wearable Sensor for Biofluid Biomarkers Detection. 2101131	2
208	Flexible, wearable biosensors for digital health. **2022**, 100118	3
207	Enhanced Photoresponse Performance of Self-Powered PTAA/GaN Microwire Heterojunction Ultraviolet Photodetector Based on Piezo-Phototronic Effect. 2102286	1
206	3D-Knit Dry Electrodes using Conductive Elastomeric Fibers for Long-Term Continuous Electrophysiological Monitoring. 2101572	0
205	Intelligent and Multifunctional Graphene Nanomesh Electronic Skin with High Comfort. **2021**, e2104810	14
204	Electronic Textiles for Wearable Point-of-Care Systems.. **2021**,	50
203	High-frequency and intrinsically stretchable polymer diodes. **2021**, 600, 246-252	34
202	Wearable hybrid sensors. **2022**, 255-274	
201	Flexible Intelligent Array Patch Based on Synergy of Polyurethane and Nanofiber for Sensitive Monitor and Smart Treatment.	
200	Highly stretchable and sensitive strain sensors with ginkgo-like sandwich architectures. **2022**, 4, 1681-1693	1
199	Soft stretchable conductive nanocomposites for biointegrated electronics. **2022**,	
198	Microporous Multiresonant Plasmonic Meshes by Hierarchical Micro-Nanoimprinting for Bio-Interfaced SERS Imaging and Nonlinear Nano-Optics.. **2022**, e2106887	2
197	Flexible Electronics and Devices as Human-Machine Interfaces for Medical Robotics.. **2021**, e2107902	26

196	Recent Advances in Electronic Skins with Multiple-Stimuli-Responsive and Self-Healing Abilities.. **2022**, 15,	2
195	Drawn-on-Skin Sensors from Fully Biocompatible Inks toward High-Quality Electrophysiology. 2107099	3
194	Breathable, Self-Adhesive Dry Electrodes for Stable Electrophysiological Signal Monitoring During Exercise.. **2022**,	1
193	Wireless, minimized, stretchable, and breathable electrocardiogram sensor system. **2022**, 9, 011425	1
192	Wearable electrochemical biosensors to measure biomarkers with complex blood-to-sweat partition such as proteins and hormones.. **2022**, 189, 127	1
191	Parylene C-Based, Breathable Tattoo Electrodes for High-Quality Bio-Potential Measurements.. **2022**, 10, 820217	1
190	Hydrophilic, Breathable, and Washable Graphene Decorated Textile Assisted by Silk Sericin for Integrated Multimodal Smart Wearables. 2200162	6
189	Metal-organic cycle-based multistage assemblies.. **2022**, 119, e2122398119	1
188	Flexible Ceramic Film Sensors for Free-Form Devices.. **2022**, 22,	4
187	Highly Permeable and Ultrastretchable Liquid Metal Micromesh for Skin-Attachable Electronics. **2022**, 4, 634-641	5
186	Ultra-robust stretchable electrode for e-skin: In situ assembly using a nanofiber scaffold and liquid metal to mimic water-to-net interaction. **2022**, 4,	6
185	Organic-Inorganic Hybrid Gate Dielectrics Using Self-Assembled Multilayers For Low-Voltage Operating Thin-Film Transistors. **2022**, 60, 220-226	
184	Air-Permeable Waterproofing Electrocardiogram Patch to Monitor Full-Day Activities for Multiple Days.. **2022**, e2102703	1
183	Bioinspired Perspiration-Wicking Electronic Skins for Comfortable and Reliable Multimodal Health Monitoring. 2200961	7
182	The Current State of Optical Sensors in Medical Wearables.. **2022**, 12,	4
181	On-skin computing. **2022**, 65, 38-39	1
180	Adaptive self-organization of nanomaterials enables strain-insensitive resistance of stretchable metallic nanocomposites.. **2022**, e2200980	3
179	Skin-Mimicking, Stretchable Photodetector for Skin-Customized Ultraviolet Dosimetry. 2101348	1

178	An all-elastomer pressure sensor utilizing printed carbon nanotube patterns with high sensitivity. **2022**, 14, 100113	0
177	Hydrogel Bioadhesives with Extreme Acid-Tolerance for Gastric Perforation Repairing. 2202285	2
176	Strategies for body-conformable electronics. **2022**, 5, 1104-1136	12
175	An intrinsically stretchable aqueous Zn-MnO2 battery based on microcracked electrodes for self-powering wearable electronics. **2022**, 47, 386-393	3
174	A Hierarchical Metal Nanowire Network Structure for Durable, Cost-Effective, Stretchable, and Breathable Electronics.. **2021**, 13, 60425-60432	1
173	Flexible and Stretchable Strategies for Electronic Skins: Materials, Structure, and Integration. **2022**, 4, 1-26	2
172	Directional Sweat Transport and Breathable Sandwiched Electrodes for Electrocardiogram Monitoring System. **2022**, 9, 2101602	0
171	Recent Advances in 1D Nanomaterial-Based Bioelectronics for Healthcare Applications. **2022**, 2, 2100111	3
170	A Stretchable Strain Sensor Based on CNTs/GR for Human Motion Monitoring. **2021**, 16,	
169	Organic Synaptic Transistors for Bio-Hybrid Neuromorphic Electronics. **2022**, 8, 2100935	2
168	Skin bioelectronics towards long-term, continuous health monitoring.. **2022**,	11
167	??????????????????. **2022**,	0
166	Cellulose Nanopaper: Fabrication, Functionalization, and Applications.. **2022**, 14, 104	10
165	Advances in Soft and Dry Electrodes for Wearable Health Monitoring Devices.. **2022**, 13,	4
164	Flexible intelligent array patch based on synergy of polyurethane and nanofiber for sensitive monitor and smart treatment. **2022**, 443, 136378	3
163	Electronic Tattoos. **2022**,	0
162	Magnetization Reversal and Domain Structures in Perpendicular Synthetic Antiferromagnets Prepared on Rigid and Flexible Substrates. 1	0
161	In-situ sugar-templated porous elastomer sensor with high sensitivity for wearables. **2022**, 16,	

160	Surface Wettability for Skin-Interfaced Sensors and Devices. 2200260	8
159	A Bioinspired Sweat-Drainable Janus Electrophysiological Electrode for Scientific Sports Training. 2200040	0
158	Printable and Highly Stretchable Viscoelastic Conductors with Kinematically Reconstructed Conductive Pathways.. **2022**, e2202418	3
157	Fully nano/micro-fibrous triboelectric on-skin patch with high breathability and hydrophobicity for physiological status monitoring. **2022**, 98, 107311	4
156	Internet of things (IoT) in nano-integrated wearable biosensor devices for healthcare applications. **2022**, 11, 100153	2
155	A Scalable Laser-Centric Fabrication of an Epidermal Cardiopulmonary Patch. 2200242	0
154	Ultrasoft Porous 3D Conductive Dry Electrodes for Electrophysiological Sensing and Myoelectric Control. 2101637	2
153	Janus-Structural AIE Nanofiber with White Light Emission and Stimuli-Response.. **2022**, e2201117	2
152	Deposition of Skin-Adhesive Liquid Metal Particles with Robust Wear Resistance for Epidermal Electronics.. **2022**,	5
151	??????????. **2022**,	
150	Active Matrix Flexible Sensory Systems: Materials, Design, Fabrication, and Integration. 2100253	2
149	Intelligent Nanomaterials for Wearable and Stretchable Strain Sensor Applications: The Science behind Diverse Mechanisms, Fabrication Methods, and Real-Time Healthcare. **2022**, 14, 2219	1
148	Knitted self-powered sensing textiles for machine learning-assisted sitting posture monitoring and correction.	4
147	Design of hydrogel-based wearable EEG electrodes for medical applications.	2
146	Sensors and Platforms for Flexible Bioelectronics. **2022**, 27-62	
145	Gas-Permeable Organic Electrochemical Transistor Embedded with a Porous Solid-State Polymer Electrolyte as an on-Skin Active Electrode for Electrophysiological Signal Acquisition. 2200458	1
144	Personalized Electronic Tattoo for Healthcare Realized by On-the-spot Assembly of Intrinsically Conductive and Durable Liquid-metal-composite. 2204159	7
143	Bioinspired Interface-Guided Conformal Janus Membranes with Enhanced Adhesion for Flexible Multifunctional Electronics.	1

142	Moldable and transferrable conductive nanocomposites for epidermal electronics. **2022**, 6,	2
141	Transparent and Mechanically High-Performance Soft Materials Consisting of Colloidal Building Blocks.	0
140	Highly Scalable, Wearable Surface-Enhanced Raman Spectroscopy. 2200054	4
139	Electromyogram-Strain Synergetic Intelligent Artificial Throat. **2022**, 137741	0
138	Improving disease prevention, diagnosis, and treatment using novel bionic technologies.	
137	A ternary heterogeneous hydrogel with strength elements for resilient, self-healing, and recyclable epidermal electronics. **2022**, 6,	0
136	Minimally-invasive and non-invasive flexible devices for robust characterizations of deep tissues. **2022**,	
135	A breathable flexible glucose biosensor with embedded electrodes for long-term and accurate wearable monitoring. **2022**, 181, 107707	2
134	Facile and Scalable Synthesis of Whiskered Gold Nanosheets for Stretchable, Conductive, and Biocompatible Nanocomposites.	
133	Recent progress in electrospun nanomaterials for wearables. **2022**, 6, 021505	0
132	Antimicrobial second skin using copper nanomesh. **2022**, 119,	1
131	An All-Nanofiber-Based Substrate-Less, Extremely Conformal, and Breathable Organic Field Effect Transistor for Biomedical Applications. 2204645	1
130	Ordered Nanopillar Arrays of Low Dynamic Noise Dry Bioelectrodes for Electrocardiogram Surface Monitoring.	0
129	Adhesive-Free, Stretchable, and Permeable Multiplex Wound Care Platform.	0
128	Brush drawing multifunctional electronic textiles for human-machine interfaces. **2022**, 41, 131-138	1
127	Natural gum-based electronic ink with water-proofing self-healing and easy-cleaning properties for directly on-skin electronics. **2022**, 214, 114547	0
126	Mechanical analysis of adhesion between wearable electronics and human skin based on crack theory of bi-material interface. **2022**, 254-255, 111850	
125	Flexible hybrid electronics: Enabling integration techniques and applications.	

124	Skin-Like Transparent Sensor Sheet for Remote Healthcare Using Electroencephalography and Photoplethysmography. 2200362	2
123	A highly stretchable and ultra-sensitive strain sensing fiber based on a porous core–network sheath configuration for wearable human motion detection.	0
122	Smart Nanotextiles for Wearable Health Monitoring. **2022**, 87-134	0
121	A Breathable and Stretchable Metastructure for a Versatile Hybrid Electronic Skin Patch with Long-Term Skin Comfort. 2200477	1
120	All-nanofiber self-powered PTFE/PA66 device for real-time breathing monitor by scalable solution blow spinning technology. **2022**, 15, 8458-8464	
119	Ultra-Lightweight, Highly Permeable, and Waterproof Fibrous Organic Electrochemical Transistors for On-Skin Bioelectronics. 2200611	1
118	Gas-Permeable Highly Sensitive Nanomesh Humidity Sensor for Continuous Measurement of Skin Humidity. 2200479	1
117	Mechanically Stable All Flexible Supercapacitors with Fracture and Fatigue Resistance under Harsh Temperatures. **2022**, 32, 2205708	1
116	Strenuous exercise-tolerance stretchable dry electrodes for continuous multi-channel electrophysiological monitoring. **2022**, 6,	0
115	Mechanically Active Materials and Devices for Bio-Interfaced Pressure Sensors—A Review. 2205609	2
114	Highly Stretchable, Breathable, and Self-Powered Strain-Temperature Dual-Functional Sensors with Laminated Structure for Health Monitoring, Hyperthermia, and Physiotherapy Applications. 2200680	0
113	PEDOT Composite with Ionic Liquid and Its Application to Deformable Electrochemical Transistors. **2022**, 8, 534	0
112	Breathable Electronic Skins for Daily Physiological Signal Monitoring. **2022**, 14,	3
111	Halloysite nanotubes strengthened electrospinning composite nanofiber membrane for on-skin flexible pressure sensor with high sensitivity, good breathability, and round-the-clock antibacterial activity. **2022**, 228, 106650	2
110	Topological insulators photodetectors: Preparation, advances and application challenges. **2022**, 33, 104190	1
109	Knitted structural design of MXene/Cu2O based strain sensor for smart wear.	0
108	Highly breathable, surface-hydrophobic and wet-adhesive silk based epidermal electrode for long-term electrophysiological monitoring. **2022**, 230, 109751	0
107	Flexible, stretchable, breathable and sweatproof all-nanofiber iontronic tactile sensor for continuous and comfortable knee joint motion monitoring. **2022**, 103, 107768	1

106	High-performance multimodal smart textile for artificial sensation and health monitoring. **2022**, 103, 107778	1
105	Breathable, antifreezing, mechanically skin-like hydrogel textile wound dressings with dual antibacterial mechanisms. **2023**, 21, 313-323	2
104	Self-assembly, alignment, and patterning of metal nanowires.	1
103	A flexible metal nano-mesh strain sensor with the characteristic of spontaneous functional recovery after fracture damage. **2022**, 14, 12409-12417	0
102	High-Performance Multimodal Smart Textile for Artificial Sensation and Health Monitoring.	0
101	Transparent and Skin-Attachable Silver Nanowire Electrodes Embedded on Dissolvable Polyurethane for Highly Conformable Wearable Electronics. 2200968	1
100	Critical Salt Loading in Flexible Poly(vinyl alcohol) Sensors Fabricated by an Inkjet Printing and Plasma Reduction Method. **2022**, 13, 1437	0
99	Enhancing the interfacial binding strength between modular stretchable electronic components.	1
98	Alkaline Treatment Variables to Characterize Poly(Vinyl Alcohol)/Poly(Vinyl Butyral/Vinyl Alcohol) Blend Films. **2022**, 14, 3916	0
97	Mussel Byssus Inspired Ionic Skin with Damage-Resistant Signal for Human Machine Interaction. 2201367	0
96	Mucosa-interfacing electronics.	5
95	Ultrathin Fiber-Mesh Polymer Thermistors. 2202312	1
94	Stretchable printed circuit board integrated with Ag-nanowire-based electrodes and organic transistors toward imperceptible electrophysiological sensing.	0
93	Biodegradable polymeric materials for flexible and degradable electronics. 3,	2
92	Pathway to Developing Permeable Electronics.	6
91	Versatile self-assembled electrospun micropyramid arrays for high-performance on-skin devices with minimal sensory interference. **2022**, 13,	4
90	Ultrathin crystalline-silicon-based strain gauges with deep learning algorithms for silent speech interfaces. **2022**, 13,	3
89	A stretchable epidermal sweat sensing platform with an integrated printed battery and electrochromic display.	5

88	Ultralight and flexible silver nanoparticle-wrapped scorpion pectine-like polyimide hybrid aerogels as sensitive pressor sensors with wide temperature range and consistent conductivity response. **2022**, 139647	0
87	Geometrically Curved Magnetic Field Sensors for Interactive Electronics. **2022**, 375-401	0
86	Roles of Low-Dimensional Nanomaterials in Pursuing Human-Machine-Thing Natural Interaction. 2207437	0
85	Printable personalized drug delivery patch for the topical therapy of skin diseases. **2022**,	0
84	An All-in-One, Bioderived, Air-Permeable, and Sweat-Stable MXene Epidermal Electrode for Muscle Theranostics. **2022**, 16, 17168-17178	1
83	Elastic Fibers/Fabrics for Wearables and Bioelectronics. 2203808	2
82	Dual-Functional Self-Attachable and Stretchable Interface for Universal Three-Dimensional Modular Electronics. **2022**, 14, 49303-49312	0
81	Engineering the Comfort-of-Wear for Next Generation Wearables. 2200512	2
80	Ultrathin Hydrogel Films Toward Breathable Skin-Integrated Electronics. 2206793	1
79	Graphene e-tattoos for unobstructive ambulatory electrodermal activity sensing on the palm enabled by heterogeneous serpentine ribbons. **2022**, 13,	4
78	Highly stretchable and self-adhesive ionically cross-linked double-network conductive hydrogel sensor for electronic skin. **2023**, 656, 130363	0
77	Recent Advances in Materials, Designs and Applications of Skin Electronics. **2022**, 1-39	0
76	A facile and scalable patterning approach for ultrastretchable liquid metal features.	0
75	Tough-interface-enabled stretchable electronics using non-stretchable polymer semiconductors and conductors.	1
74	Surface-Embedded Liquid Metal Electrodes with Abrasion Resistance via Direct Magnetic Printing.	0
73	Ultrapermeable and Wet-Adhesive Monolayer Porous Film for Stretchable Epidermal Electrode.	0
72	Hierarchically Oriented Jellyfish-Like Gold Nanowires Film for Elastronics. 2209760	0
71	Thermally Induced Gelation of Cellulose Nanocrystals in Deep Eutectic Solvents for 3D Printable and Self-Healable Ionogels.	1

70	Biodegradable Electronics. **2023**, 1019-1041	0
69	Washable, stretchable, and reusable core□hell metal nanowire network-based electronics on a breathable polymer nanomesh substrate. **2022**,	2
68	Large-scale Ultra-robust MoS 2 Patterns Directly Synthesized on Polymer Substrate for Flexible Sensing Electronics. 2207447	1
67	Intelligent wearable devices based on nanomaterials and nanostructures for healthcare.	1
66	Flexible and ultrathin waterproof conductive cellular membranes based on conformally gold-coated PVDF nanofibers and their potential as gas diffusion electrode. **2023**, 225, 111441	0
65	Preparation and applications of flexible conductive organohydrogels with ultrahigh gas permeability.	0
64	Stretchable conductors for stretchable field-effect transistors and functional circuits.	0
63	A 1.3-micrometre-thick elastic conductor for seamless on-skin and implantable sensors. **2022**, 5, 784-793	2
62	SiO 2 Nanoparticles Incorporated Poly(Vinylidene) Fluoride Composite for Efficient Piezoelectric Energy Harvesting and Dual-Mode Sensing. 2201143	0
61	Recent advances in electronic skins: material progress and applications. 10,	0
60	Ultrathin and highly breathable electronic tattoo for sensing multiple signals imperceptibly on the skin. **2022**, 108092	0
59	Thermal-sinterable EGaIn Nanoparticle inks for Highly Deformable Bioelectrode Arrays. 2202531	0
58	Antioxidant Stress of Transdermal Gene Delivery by Non-Viral Gene Vectors Based on Chitosan-Oligosaccharide. **2022**, 13, 299	0
57	Real-Time Monitoring of Wound States via Rationally Engineered Biosensors. 2200018	0
56	Ultrathin, Breathable, Permeable, and Skin-Adhesive Charge Storage Electronic Tattoos Based on Biopolymer Nanofibers and Carbon Nanotubes. 2201095	0
55	MXene/Fluoropolymer-Derived Laser-Carbonaceous All-Fibrous Nanohybrid Patch for Soft Wearable Bioelectronics. 2208894	0
54	An Overview of Flexible Sensors: Development, Application, and Challenges. **2023**, 23, 817	0
53	Self-Patterning of Highly Stretchable and Electrically Conductive Liquid Metal Conductors by Direct-Write Super-Hydrophilic Laser-Induced Graphene and Electroless Copper Plating.	0

52	Bubble-blowing-inspired sub-micron thick freestanding silk films for programmable electronics.	0
51	Hydrogel Nanoarchitectonics of a Flexible and Self-adhesive Electrode for Long-term Wireless Electroencephalogram Recording and High-accuracy Sustained Attention Evaluation. 2209606	0
50	Toward a new generation of permeable skin electronics.	1
49	Air-permeable redox mediated transcutaneous CO2 sensor. **2023**, 457, 141260	0
48	Crosslinked PVA electrospinning nanofibrous film as a new platform for the design of K+ sensor. **2023**, 380, 133317	1
47	A substrate-less nanomesh receptor with meta-learning for rapid hand task recognition.	0
46	A Breathable, Passive-Cooling, Non-Inflammatory, and Biodegradable Aerogel Electronics for Wearable Physical-Electrophysiological-Chemical Analysis. 2209300	0
45	Flexible temperature sensors based on two-dimensional materials for wearable devices.	0
44	Washable and Breathable Electret Sensors Based on a Hydro-Charging Technique for Smart Textiles. **2023**, 15, 2449-2458	0
43	Smart biomaterials for skin tissue engineering and health monitoring. **2023**, 211-258	0
42	Applications of Graphene in Five Senses, Nervous System, and Artificial Muscles.	0
41	One 3D aerogel wearable pressure sensor with ultrahigh sensitivity, wide working range, low detection limit for voice recognition and physiological signal monitoring.	0
40	Current Status and Development Tendency of Wearable Cardiac Health Monitoring. **2023**, 9, 71-92	0
39	Stretchable Low-Impedance Conductor with Ag@Au@Pt Core–Shell–Shell Nanowires and in Situ Formed Pt Nanoparticles for Wearable and Implantable Device.	0
38	Recent Development of Sustainable Self-Healable Electronic Skin Applications, a Review with Insight. **2023**, 142945	0
37	Gas-permeable and stretchable on-skin electronics based on a gradient porous elastomer and self-assembled silver nanowires. **2023**, 463, 142350	0
36	Skin-interfaced electronics: A promising and intelligent paradigm for personalized healthcare. **2023**, 296, 122075	0
35	Flexible and transparent MXene-platformed ultrafast photodetector for encrypted signal communication in self-powered operation. **2023**, 109, 108331	0

34	Advances in Spinal Cord Stimulation. **2023**, 10, 185	0
33	Self-Powered Biosensors for Monitoring Human Physiological Changes. **2023**, 13, 236	0
32	A universal interface for plug-and-play assembly of stretchable devices. **2023**, 614, 456-462	0
31	Integration of Conductive Nanocomposites and Nanomembranes for High-Performance Stretchable Conductors. 2200153	0
30	Smart Wearable Systems for Health Monitoring. **2023**, 23, 2479	1
29	Flexible, Permeable, and Recyclable Liquid-Metal-Based Transient Circuit Enables Contact/Noncontact Sensing for Wearable Human–Machine Interaction. **2023**, 7,	0
28	Ultrathin Mo2S3 Nanowire Network for High-Sensitivity Breathable Piezoresistive Electronic Skins. **2023**, 17, 4862-4870	0
27	Wet-Adhesive Multifunctional Hydrogel with Anti-swelling and a Skin-Seamless Interface for Underwater Electrophysiological Monitoring and Communication. **2023**, 15, 11549-11562	0
26	Microstructured Droplet Based Porous Capacitive Pressure Sensor. **2022**,	0
25	Fabrication of practical deformable displays: advances and challenges. **2023**, 12,	0
24	Lantern-Inspired On-Skin Helical Interconnects for Epidermal Electronic Sensors. 2213335	0
23	Recent Advances in Nanomaterials Used for Wearable Electronics. **2023**, 14, 603	0
22	Spider-inspired tunable mechanosensor for biomedical applications. **2023**, 7,	0
21	Graded Mxene-Doped Liquid Metal as Adhesion Interface Aiming for Conductivity Enhancement of Hybrid Rigid-Soft Interconnection.	0
20	Technology Roadmap for Flexible Sensors. **2023**, 17, 5211-5295	0
19	Materials and device architecture towards a multimodal electronic skin. **2023**,	0
18	Fully paper-integrated hydrophobic and air permeable piezoresistive sensors for high-humidity and underwater wearable motion monitoring. **2023**, 7,	0
17	All-MXene-Printed RF Resonators as Wireless Plant Wearable Sensors for In Situ Ethylene Detection. 2207889	0

16	Soft Electronics for Health Monitoring Assisted by Machine Learning. **2023**, 15,	1
15	Recent Progress of Biomaterials-Based Epidermal Electronics for Healthcare Monitoring and Human–Machine Interaction. **2023**, 13, 393	0
14	Advances in Ultrathin Soft Sensors, Integrated Materials, and Manufacturing Technologies for Enhanced Monitoring of Human Physiological Signals. 2201294	0
13	Advances in flexible sensors for intelligent perception system enhanced by artificial intelligence.	0
12	Skin-Interfaced Wearable Sweat Sensors for Precision Medicine.	0
11	A bioinspired, self-powered, flytrap-based sensor and actuator enabled by voltage triggered hydrogel electrodes.	0
10	Precise Measurement of Grasping Force for Noncollaborative Infants.	0
9	Skin-Adhesive, -Breathable, and -Compatible Nanopaper Electronics for Harmonious On-Skin Electrophysiological Monitoring.	0
8	Facile and Controllable Ultrasonic Nebulization Method for Fabricating Ti 3 C 2 T x -Based Strain Sensor and Monitoring of Human Motion and Sound Wave.	0
7	Flexible piezoresistive sensors based on porous PDMS/CB composite materials prepared by the solvothermal method. **2023**, 34,	0
6	Skin-Inspired Ultra-Tough Supramolecular Multifunctional Hydrogel Electronic Skin for Human–Machine Interaction. **2023**, 15,	0
5	Design and 3D Printing of Stretchable Conductor with High Dynamic Stability. **2023**, 16, 3098	0
4	Micro/Nano-Fabrication of Flexible Poly(3,4-Ethylenedioxythiophene)-Based Conductive Films for High-Performance Microdevices.	0
3	Intrinsically Healable Fabrics.	0
2	Hierarchically resistive skins as specific and multimetric on-throat wearable biosensors.	0
1	Recent Advances in 2D Wearable Flexible Sensors.	0