

Rusen Yang

List of Publications by Year in descending order

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135
papers

14,500
citations

36203

51
h-index

18606

119
g-index

138
all docs

138
docs citations

138
times ranked

14831
citing authors

#	ARTICLE	IF	CITATIONS
1	Self-powered nanowire devices. <i>Nature Nanotechnology</i> , 2010, 5, 366-373.	15.6	1,462
2	Single-Crystal Nanorings Formed by Epitaxial Self-Coiling of Polar Nanobelts. <i>Science</i> , 2004, 303, 1348-1351.	6.0	1,383
3	Power generation with laterally packaged piezoelectric fine wires. <i>Nature Nanotechnology</i> , 2009, 4, 34-39.	15.6	859
4	Flexible Piezotronic Strain Sensor. <i>Nano Letters</i> , 2008, 8, 3035-3040.	4.5	742
5	Flexible High-Output Nanogenerator Based on Lateral ZnO Nanowire Array. <i>Nano Letters</i> , 2010, 10, 3151-3155.	4.5	713
6	Lithiated MoO ₃ Nanobelts with Greatly Improved Performance for Lithium Batteries. <i>Advanced Materials</i> , 2007, 19, 3712-3716.	11.1	545
7	Semiconducting and Piezoelectric Oxide Nanostructures Induced by Polar Surfaces. <i>Advanced Functional Materials</i> , 2004, 14, 943-956.	7.8	537
8	Converting Biomechanical Energy into Electricity by a Muscle-Movement-Driven Nanogenerator. <i>Nano Letters</i> , 2009, 9, 1201-1205.	4.5	441
9	Enhanced Ferroelectric-Nanocrystal-Based Hybrid Photocatalysis by Ultrasonic-Wave-Generated Piezophototronic Effect. <i>Nano Letters</i> , 2015, 15, 2372-2379.	4.5	428
10	Muscle-Driven In Vivo Nanogenerator. <i>Advanced Materials</i> , 2010, 22, 2534-2537.	11.1	388
11	Hybrid Nanogenerator for Concurrently Harvesting Biomechanical and Biochemical Energy. <i>ACS Nano</i> , 2010, 4, 3647-3652.	7.3	383
12	Effect of humidity and pressure on the triboelectric nanogenerator. <i>Nano Energy</i> , 2013, 2, 604-608.	8.2	369
13	Cellular Level Biocompatibility and Biosafety of ZnO Nanowires. <i>Journal of Physical Chemistry C</i> , 2008, 112, 20114-20117.	1.5	288
14	Piezoelectric-Potential-Controlled Polarity-Reversible Schottky Diodes and Switches of ZnO Wires. <i>Nano Letters</i> , 2008, 8, 3973-3977.	4.5	279
15	Self-assembly of diphenylalanine peptide with controlled polarization for power generation. <i>Nature Communications</i> , 2016, 7, 13566.	5.8	233
16	Lateral nanowire/nanobelt based nanogenerators, piezotronics and piezo-phototronics. <i>Materials Science and Engineering Reports</i> , 2010, 70, 320-329.	14.8	223
17	Growth and field-emission property of tungsten oxide nanotip arrays. <i>Applied Physics Letters</i> , 2005, 87, 223108.	1.5	219
18	Ordered Nanowire Array Blue/Near-UV Light Emitting Diodes. <i>Advanced Materials</i> , 2010, 22, 4749-4753.	11.1	206

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19	Aligned AlN Nanorods with Multi-tipped Surfacesâ€™ Growth, Field-Emission, and Cathodoluminescence Properties. <i>Advanced Materials</i> , 2006, 18, 650-654.	11.1	183
20	Growth of ZnO nanotube arrays and nanotube based piezoelectric nanogenerators. <i>Journal of Materials Chemistry</i> , 2009, 19, 9260.	6.7	181
21	Flexible electronic skins based on piezoelectric nanogenerators and piezotronics. <i>Nano Energy</i> , 2019, 59, 84-90.	8.2	171
22	Environmental effects on nanogenerators. <i>Nano Energy</i> , 2015, 14, 49-61.	8.2	155
23	Temperature dependence of the Raman spectra of single-wall carbon nanotubes. <i>Applied Physics Letters</i> , 2000, 76, 2053-2055.	1.5	154
24	Deformation-Free Single-Crystal Nanohelices of Polar Nanowires. <i>Nano Letters</i> , 2004, 4, 1309-1312.	4.5	146
25	Integrated Multilayer Nanogenerator Fabricated Using Paired Nanotip-to-Nanowire Brushes. <i>Nano Letters</i> , 2008, 8, 4027-4032.	4.5	146
26	Aspect Ratio Dependence of the Elastic Properties of ZnO Nanobelts. <i>Nano Letters</i> , 2007, 7, 1314-1317.	4.5	130
27	Growth of Horizontal ZnO Nanowire Arrays on Any Substrate. <i>Journal of Physical Chemistry C</i> , 2008, 112, 18734-18736.	1.5	122
28	Springs, Rings, and Spirals of Rutile-Structured Tin Oxide Nanobelts. <i>Journal of the American Chemical Society</i> , 2006, 128, 1466-1467.	6.6	121
29	Mechanism and Optimization of pH Sensing Using SnO ₂ Nanobelt Field Effect Transistors. <i>Nano Letters</i> , 2008, 8, 4179-4184.	4.5	119
30	Characteristics of output voltage and current of integrated nanogenerators. <i>Applied Physics Letters</i> , 2009, 94, .	1.5	114
31	Synthesis of Single-Crystalline Niobate Nanorods via Ion-Exchange Based on Molten-Salt Reaction. <i>Journal of the American Chemical Society</i> , 2007, 129, 15444-15445.	6.6	104
32	Single-Crystalline Branched Zinc Phosphide Nanostructures:Â Synthesis, Properties, and Optoelectronic Devices. <i>Nano Letters</i> , 2007, 7, 269-275.	4.5	104
33	Highly sensitive and flexible strain sensors based on vertical zinc oxide nanowire arrays. <i>Sensors and Actuators A: Physical</i> , 2014, 205, 164-169.	2.0	93
34	Enhanced photoelectrochemical hydrogen production efficiency of MoS ₂ -Si heterojunction. <i>Optics Express</i> , 2019, 27, A352.	1.7	91
35	Bioinspired Stable and Photoluminescent Assemblies for Power Generation. <i>Advanced Materials</i> , 2019, 31, e1807481.	11.1	82
36	Formation of double-side teathed nanocombs of ZnO and self-catalysis of Zn-terminated polar surface. <i>Chemical Physics Letters</i> , 2006, 417, 358-362.	1.2	80

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37	Intrinsic characteristics of semiconducting oxide nanobelt field-effect transistors. <i>Applied Physics Letters</i> , 2006, 89, 093114.	1.5	79
38	Strategies for effectively harvesting wind energy based on triboelectric nanogenerators. <i>Nano Energy</i> , 2022, 100, 107522.	8.2	77
39	Synthesis of vertically aligned ultra-long ZnO nanowires on heterogeneous substrates with catalyst at the root. <i>Nanotechnology</i> , 2012, 23, 055604.	1.3	74
40	A spring-assisted hybrid triboelectric-electromagnetic nanogenerator for harvesting low-frequency vibration energy and creating a self-powered security system. <i>Nanoscale</i> , 2018, 10, 14747-14754.	2.8	73
41	Nonlayered Two-Dimensional Defective Semiconductor $\text{In}_3\text{Ga}_2\text{S}_3$ toward Broadband Photodetection. <i>ACS Nano</i> , 2019, 13, 6297-6307.	7.3	72
42	Piezoelectric diphenylalanine peptide for greatly improved flexible nanogenerators. <i>Nano Energy</i> , 2018, 51, 317-323.	8.2	71
43	Molecular engineering of piezoelectricity in collagen-mimicking peptide assemblies. <i>Nature Communications</i> , 2021, 12, 2634.	5.8	68
44	Synthesis of Ba-doped CeO_2 nanowires and their application as humidity sensors. <i>Nanotechnology</i> , 2007, 18, 465504.	1.3	66
45	Recent Advances in Intelligent Wearable Medical Devices Integrating Biosensing and Drug Delivery. <i>Advanced Materials</i> , 2022, 34, e2108491.	11.1	64
46	Two-dimensional non-layered materials. <i>Materials Today Nano</i> , 2019, 8, 100051.	2.3	62
47	Stable and optoelectronic dipeptide assemblies for power harvesting. <i>Materials Today</i> , 2019, 30, 10-16.	8.3	62
48	Piezotronic Effect: An Emerging Mechanism for Sensing Applications. <i>Sensors</i> , 2015, 15, 22914-22940.	2.1	61
49	Triboelectric-Thermoelectric Hybrid Nanogenerator for Harvesting Energy from Ambient Environments. <i>Advanced Materials Technologies</i> , 2018, 3, 1800166.	3.0	61
50	Tunable Mechanical and Optoelectronic Properties of Organic Cocrystals by Unexpected Stacking Transformation from H- to J- and X-Aggregation. <i>ACS Nano</i> , 2020, 14, 10704-10715.	7.3	61
51	Unique Properties of Selectively Formed Zirconia Nanostructures. <i>Advanced Materials</i> , 2006, 18, 664-667.	11.1	59
52	Diphenylalanine-Derivative Peptide Assemblies with Increased Aromaticity Exhibit Metal-like Rigidity and High Piezoelectricity. <i>ACS Nano</i> , 2020, 14, 7025-7037.	7.3	59
53	Constructing van der Waals Heterogeneous Photocatalysts Based on Atomically Thin Carbon Nitride Sheets and Graphdiyne for Highly Efficient Photocatalytic Conversion of CO_2 into CO. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 40629-40637.	4.0	51
54	Guest Molecule-Mediated Energy Harvesting in a Conformationally Sensitive Peptide-Metal Organic Framework. <i>Journal of the American Chemical Society</i> , 2022, 144, 3468-3476.	6.6	49

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55	Epitaxial growth of vertically aligned piezoelectric diphenylalanine peptide microrods with uniform polarization. <i>Nano Energy</i> , 2015, 17, 323-329.	8.2	48
56	Rigid Tightly Packed Amino Acid Crystals as Functional Supramolecular Materials. <i>ACS Nano</i> , 2019, 13, 14477-14485.	7.3	48
57	Piezoelectric peptide-based nanogenerator enhanced by single-electrode triboelectric nanogenerator. <i>APL Materials</i> , 2017, 5, .	2.2	44
58	Design and application of piezoelectric biomaterials. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 194002.	1.3	44
59	Piezoelectric Peptide and Metabolite Materials. <i>Research</i> , 2019, 2019, 9025939.	2.8	44
60	Enhancing the Performance of Textile Triboelectric Nanogenerators with Oblique Microrod Arrays for Wearable Energy Harvesting. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 26824-26829.	4.0	43
61	Characterizing individual SnO ₂ nanobelt field-effect transistors and their intrinsic responses to hydrogen and ambient gases. <i>Materials Chemistry and Physics</i> , 2012, 137, 372-380.	2.0	42
62	Introducing spin polarization into atomically thin 2D carbon nitride sheets for greatly extended visible-light photocatalytic water splitting. <i>Nano Energy</i> , 2021, 83, 105783.	8.2	42
63	Nanowire-Quantum Dot Hybridized Cell for Harvesting Sound and Solar Energies. <i>Journal of Physical Chemistry Letters</i> , 2010, 1, 2929-2935.	2.1	41
64	Accelerated charge transfer in water-layered peptide assemblies. <i>Energy and Environmental Science</i> , 2020, 13, 96-101.	15.6	39
65	A whirligig-inspired intermittent-contact triboelectric nanogenerator for efficient low-frequency vibration energy harvesting. <i>Nano Energy</i> , 2021, 90, 106576.	8.2	39
66	SiC-Shell Nanostructures Fabricated by Replicating ZnO Nano-objects: A Technique for Producing Hollow Nanostructures of Desired Shape. <i>Small</i> , 2006, 2, 1344-1347.	5.2	38
67	Nondestructive <i>In Situ</i> Identification of Crystal Orientation of Anisotropic ZnO Nanostructures. <i>ACS Nano</i> , 2009, 3, 2593-2600.	7.3	38
68	Fabric-Based Triboelectric Nanogenerators. <i>Research</i> , 2019, 2019, 1091632.	2.8	36
69	Interpenetrative and transverse growth process of self-catalyzed ZnO nanorods. <i>Solid State Communications</i> , 2005, 134, 741-745.	0.9	35
70	Optical switches based on CdS single nanowire. <i>Materials Research Bulletin</i> , 2010, 45, 1476-1480.	2.7	31
71	Uniform Zinc Oxide Nanowire Arrays Grown on Nonepitaxial Surface with General Orientation Control. <i>Nano Letters</i> , 2013, 13, 5171-5176.	4.5	31
72	Separation of the piezotronic and piezoresistive effects in a zinc oxide nanowire. <i>Nanotechnology</i> , 2014, 25, 345702.	1.3	30

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73	Lead acetate produced from lead-acid battery for efficient perovskite solar cells. <i>Nano Energy</i> , 2020, 69, 104380.	8.2	30
74	Large-Grained All-Inorganic Bismuth-Based Perovskites with Narrow Band Gap via Lewis Acid-Base Adduct Approach. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 43876-43884.	4.0	30
75	Fabrication and application of biocompatible nanogenerators. <i>IScience</i> , 2021, 24, 102274.	1.9	28
76	Diphenylalanine-based degradable piezoelectric nanogenerators enabled by polylactic acid polymer-assisted transfer. <i>Nano Energy</i> , 2021, 88, 106229.	8.2	27
77	In-situ annealed α -M-scheme-MXene-based photocatalyst for enhanced photoelectric performance and highly selective CO ₂ photoreduction. <i>Nano Energy</i> , 2021, 90, 106532.	8.2	27
78	Perovskite Passivation Strategies for Efficient and Stable Solar Cells. <i>Solar Rrl</i> , 2021, 5, .	3.1	23
79	Co-Assembly Induced Solid-State Stacking Transformation in Amino Acid-Based Crystals with Enhanced Physical Properties. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	23
80	Multi-functional lanthanide coordination polymers for multi-modal detection of nitroaromatics and trace water in organic solvents. <i>Journal of Colloid and Interface Science</i> , 2021, 598, 474-482.	5.0	22
81	Peptide Coassembly to Enhance Piezoelectricity for Energy Harvesting. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 6538-6546.	4.0	22
82	Growth of self-assembled ZnO nanowire arrays. <i>Philosophical Magazine</i> , 2007, 87, 2097-2104.	0.7	20
83	Trapezoidal Cantilever-Structure Triboelectric Nanogenerator Integrated with a Power Management Module for Low-Frequency Vibration Energy Harvesting. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 5497-5505.	4.0	20
84	Morphology and phase selective synthesis of Cu _x O (x=1, 2) nanostructures and their catalytic degradation activity. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2010, 166, 113-117.	1.7	19
85	Core-Shell Fiber-Based 2D Woven Triboelectric Nanogenerator for Effective Motion Energy Harvesting. <i>Nanoscale Research Letters</i> , 2019, 14, 311.	3.1	19
86	P-GaN-substrate sprouted giant pure negative electrocaloric effect in Mn-doped Pb(Zr _{0.3} Ti _{0.7})O ₃ thin film with a super-broad operational temperature range. <i>Nano Energy</i> , 2021, 86, 106059.	8.2	18
87	Thiadiazole-functionalized metal-organic frameworks multifunction-architectonics for dual-target sensing of ethylamine and gossypol. <i>Chemical Engineering Journal</i> , 2022, 441, 136049.	6.6	18
88	Preparation of WO ₃ network squares for ultrasensitive photodetectors. <i>Journal of Alloys and Compounds</i> , 2011, 509, L255-L261.	2.8	15
89	Piezoelectric Potential in Single-Crystalline ZnO Nanohelices Based on Finite Element Analysis. <i>Nanomaterials</i> , 2017, 7, 430.	1.9	15
90	Rapid photoresponse of single-crystalline selenium nanobelts. <i>Solid State Communications</i> , 2008, 148, 145-147.	0.9	13

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91	Diffusion-Controlled Self-Assembly and Dendrite Formation in Silver-Seeded Anatase Titania Nanospheres. <i>Journal of Physical Chemistry C</i> , 2008, 112, 5439-5446.	1.5	13
92	Scalable alignment and transfer of nanowires in a spinning Langmuir film. <i>Nanoscale</i> , 2014, 6, 11976-11980.	2.8	13
93	High Output Piezoelectric Nanogenerator: Development and Application. <i>Science of Advanced Materials</i> , 2012, 4, 798-804.	0.1	13
94	Promoted photocarriers separation by straining in 2D/2D van der Waals heterostructures for high-efficiency visible-light photocatalysis. <i>Materials Today Physics</i> , 2022, 22, 100600.	2.9	13
95	Ordered zinc-vacancy induced Zn _{0.75} Ox nanophase structure. <i>Solid State Communications</i> , 2006, 138, 390-394.	0.9	12
96	Size dependence of the mechanical properties of ZnO nanobelts. <i>Philosophical Magazine</i> , 2007, 87, 2135-2141.	0.7	11
97	Single Nano-Sized Metal-Organic Framework for Bio-Nanoarchitectonics with In Vivo Fluorescence Imaging and Chemo-Photodynamic Therapy. <i>Nanomaterials</i> , 2022, 12, 287.	1.9	11
98	Mechanical transfer of ZnO nanowires for a flexible and conformal piezotronic strain sensor. <i>Semiconductor Science and Technology</i> , 2017, 32, 074004.	1.0	10
99	Piezoelectric nanofiber/polymer composite membrane for noise harvesting and active acoustic wave detection. <i>Nanoscale Advances</i> , 2019, 1, 4909-4914.	2.2	9
100	Spin Ordering Induced Broadband Photodetection Based on Two-Dimensional Magnetic Semiconductor MnSe . <i>Advanced Science</i> , 2022, 9, .	5.6	9
101	Direct-current nanogenerator based on ZnO nanotube arrays. <i>Physica Status Solidi - Rapid Research Letters</i> , 2011, 5, 77-79.	1.2	8
102	Interdiffusion Stomatal Movement in Efficient Multiple-Cation-Based Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 35105-35112.	4.0	8
103	Highly stable metal-organic framework UiO-66-NH ₂ for high-performance triboelectric nanogenerators. <i>Nanotechnology</i> , 2022, 33, 065402.	1.3	8
104	Introducing Spin Polarization into Mixed-Dimensional Van der Waals Heterostructures for High-Efficiency Visible-Light Photocatalysis. <i>Energy and Environmental Materials</i> , 2023, 6, .	7.3	8
105	Synthesis of BaCO ₃ Nanowires and Their Humidity Sensitive Property. <i>Journal of Nanoscience and Nanotechnology</i> , 2011, 11, 10706-10709.	0.9	7
106	High dielectric tunability with high thermal stability of the (111) highly oriented 0.85Pb(Mg _{1/3} Nb _{2/3})-0.15PbTiO ₃ thin film prepared by a sol-gel method. <i>Journal of the European Ceramic Society</i> , 2021, 41, 6482-6489.	2.8	7
107	One-Dimensional Nanostructures by Pulsed Laser Ablation. <i>Science of Advanced Materials</i> , 2012, 4, 401-406.	0.1	7
108	Increased solar absorption and promoted photocarrier separation in atomically thin 2D carbon nitride sheets for enhanced visible-light photocatalysis. <i>Chemical Engineering Journal</i> , 2022, 431, 133219.	6.6	7

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109	Realizing strong visible-light absorption band for 2D crystalline carbon nitride sheets induced by extending π -conjugation and introducing cyano groups. <i>Materials Today Physics</i> , 2022, 23, 100634.	2.9	7
110	A strategy for iron oxide nanoparticles to adhere to the neuronal membrane in the substantia nigra of mice. <i>Journal of Materials Chemistry B</i> , 2020, 8, 758-766.	2.9	6
111	Fabrication of two-dimensional 3d transition metal oxides through template assisted cations hydrolysis method. <i>Chemical Engineering Journal</i> , 2021, 415, 129044.	6.6	6
112	Synthesis and Characterization of Piezotronic Materials for Application in Strain/Stress Sensing. <i>Mechanical Engineering Series</i> , 2018, , .	0.1	5
113	Insight into the Role of H_2 in WS_2 Growth by Chemical Vapor Deposition. <i>ACS Applied Electronic Materials</i> , 2021, 3, 5138-5146.	2.0	5
114	Sulfide synergistic electrochemical activity for high-performance alkaline rechargeable microbatteries. <i>Journal of Materials Science</i> , 2021, 56, 629-639.	1.7	4
115	Characterization of the inhomogeneity of Pt/CeO _x /Pt resistive switching devices prepared by magnetron sputtering. <i>Nanotechnology</i> , 2021, 32, 145710.	1.3	4
116	EDTA-mimicking amino acid-metal ion coordination for multifunctional packings. <i>Journal of Materials Chemistry A</i> , 2021, 9, 20385-20394.	5.2	4
117	Control system of powered wheelchairs based on tongue motion detection. , 2016, , .		3
118	Co-Assembly Induced Solid-State Stacking Transformation in Amino Acid-Based Crystals with Enhanced Physical Properties. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	3
119	High-mass-density nanographene frameworks for compact capacitive energy storage. <i>Journal of Power Sources</i> , 2022, 529, 231266.	4.0	3
120	Degradation and nano-patterning of ferroelectric P(VDF-TrFE) thin films with electron irradiation. <i>RSC Advances</i> , 2015, 5, 106700-106705.	1.7	2
121	Piezotronic Effect in a Zinc Oxide Nanowire. <i>Mechanical Engineering Series</i> , 2018, , 39-52.	0.1	2
122	Design of Intelligent Street Lamp Control System Based on Wireless Network. , 2018, , .		2
123	Introduction to the Piezotronic Effect and Sensing Applications. <i>Mechanical Engineering Series</i> , 2018, , 1-4.	0.1	1
124	Growth of Uniform Nanowires with Orientation Control. <i>Mechanical Engineering Series</i> , 2018, , 5-20.	0.1	1
125	A Special Issue on Nanomaterials by Laser Processing. <i>Science of Advanced Materials</i> , 2012, 4, 365-367.	0.1	1
126	Ultra-Sensitive Strain/Stress Sensing. <i>Mechanical Engineering Series</i> , 2018, , 53-62.	0.1	1

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127	Synthesis of BaO nanowires and their humidity sensitive property. , 2010, , .		0
128	Nanowires for Piezoelectric Nanogenerators. RSC Smart Materials, 2014, , 200-276.	0.1	0
129	Piezoelectric Nanomaterials for Energy Harvesting. Nanoscience and Technology, 2016, , 193-213.	1.5	0
130	Alignment and Transfer of Nanowires in a Spinning Langmuir Film. Mechanical Engineering Series, 2018, , 21-37.	0.1	0
131	(Invited) Growth of Vertically Aligned Piezoelectric Diphenylalanine Peptide Microrods for Energy Harvesting. ECS Meeting Abstracts, 2016, , .	0.0	0
132	Control System of Powered Wheelchairs Based on Tongue Motion Detection. International Journal of Software Science and Computational Intelligence, 2016, 8, 60-75.	1.8	0
133	(Invited) Piezoelectric Peptide-Based Energy Harvesters. ECS Meeting Abstracts, 2018, , .	0.0	0
134	(Invited) Design and Energy Application of Piezoelectric Biomaterials. ECS Meeting Abstracts, 2019, , .	0.0	0
135	(Invited) Piezoelectric Biomaterials: From Controlled Growth to New Applications. ECS Meeting Abstracts, 2020, MA2020-01, 1413-1413.	0.0	0