

Benjamin J Wiley

List of Publications by Year in descending order

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135
papers

26,617
citations

10986

71
h-index

12946

131
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148
all docs

148
docs citations

148
times ranked

26739
citing authors

#	ARTICLE	IF	CITATIONS
1	Shape-Controlled Synthesis of Metal Nanostructures: The Case of Silver. <i>Chemistry - A European Journal</i> , 2005, 11, 454-463.	3.3	1,421
2	Localized Surface Plasmon Resonance Spectroscopy of Single Silver Nanocubes. <i>Nano Letters</i> , 2005, 5, 2034-2038.	9.1	1,307
3	Synthesis of Silver Nanostructures with Controlled Shapes and Properties. <i>Accounts of Chemical Research</i> , 2007, 40, 1067-1076.	15.6	1,063
4	Maneuvering the Surface Plasmon Resonance of Silver Nanostructures through Shape-Controlled Synthesis. <i>Journal of Physical Chemistry B</i> , 2006, 110, 15666-15675.	2.6	944
5	Gold Nanocages: Bioconjugation and Their Potential Use as Optical Imaging Contrast Agents. <i>Nano Letters</i> , 2005, 5, 473-477.	9.1	932
6	Polyol Synthesis of Silver Nanoparticles: Use of Chloride and Oxygen to Promote the Formation of Single-Crystal, Truncated Cubes and Tetrahedrons. <i>Nano Letters</i> , 2004, 4, 1733-1739.	9.1	908
7	Metal Nanowire Networks: The Next Generation of Transparent Conductors. <i>Advanced Materials</i> , 2014, 26, 6670-6687.	21.0	677
8	Controlled-reflectance surfaces with film-coupled colloidal nanoantennas. <i>Nature</i> , 2012, 492, 86-89.	27.8	639
9	The Growth Mechanism of Copper Nanowires and Their Properties in Flexible, Transparent Conducting Films. <i>Advanced Materials</i> , 2010, 22, 3558-3563.	21.0	622
10	FLASH: A rapid method for prototyping paper-based microfluidic devices. <i>Lab on A Chip</i> , 2008, 8, 2146.	6.0	616
11	Chemical Synthesis of Novel Plasmonic Nanoparticles. <i>Annual Review of Physical Chemistry</i> , 2009, 60, 167-192.	10.8	616
12	Synthesis and Optical Properties of Silver Nanobars and Nanorice. <i>Nano Letters</i> , 2007, 7, 1032-1036.	9.1	590
13	Large-Scale Synthesis of Silver Nanocubes: The Role of HCl in Promoting Cube Perfection and Monodispersity. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 2154-2157.	13.8	576
14	Synthesis and Mechanistic Study of Palladium Nanobars and Nanorods. <i>Journal of the American Chemical Society</i> , 2007, 129, 3665-3675.	13.7	570
15	Gold Nanocages: Engineering Their Structure for Biomedical Applications. <i>Advanced Materials</i> , 2005, 17, 2255-2261.	21.0	565
16	Optical Properties of Pd ⁺ Ag and Pt ⁺ Ag Nanoboxes Synthesized via Galvanic Replacement Reactions. <i>Nano Letters</i> , 2005, 5, 2058-2062.	9.1	508
17	The Synthesis and Coating of Long, Thin Copper Nanowires to Make Flexible, Transparent Conducting Films on Plastic Substrates. <i>Advanced Materials</i> , 2011, 23, 4798-4803.	21.0	480
18	Understanding the Role of Oxidative Etching in the Polyol Synthesis of Pd Nanoparticles with Uniform Shape and Size. <i>Journal of the American Chemical Society</i> , 2005, 127, 7332-7333.	13.7	428

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19	The effect of nanowire length and diameter on the properties of transparent, conducting nanowire films. <i>Nanoscale</i> , 2012, 4, 1996.	5.6	413
20	Synthesis and Optical Properties of Nanorattles and Multiple-Walled Nanoshells/Nanotubes Made of Metal Alloys. <i>Journal of the American Chemical Society</i> , 2004, 126, 9399-9406.	13.7	400
21	Size-Dependence of Surface Plasmon Resonance and Oxidation for Pd Nanocubes Synthesized via a Seed Etching Process. <i>Nano Letters</i> , 2005, 5, 1237-1242.	9.1	399
22	Stretchable Microfluidic Radiofrequency Antennas. <i>Advanced Materials</i> , 2010, 22, 2749-2752.	21.0	385
23	Observation of Plasmon Propagation, Redirection, and Fan-Out in Silver Nanowires. <i>Nano Letters</i> , 2006, 6, 1822-1826.	9.1	376
24	Right Bipyramids of Silver: A New Shape Derived from Single Twinned Seeds. <i>Nano Letters</i> , 2006, 6, 765-768.	9.1	365
25	Polyol Synthesis of Silver Nanostructures: Control of Product Morphology with Fe(II) or Fe(III) Species. <i>Langmuir</i> , 2005, 21, 8077-8080.	3.5	354
26	One-Dimensional Nanostructures of Metals: Large-Scale Synthesis and Some Potential Applications. <i>Langmuir</i> , 2007, 23, 4120-4129.	3.5	351
27	Solution-Processed Flexible Polymer Solar Cells with Silver Nanowire Electrodes. <i>ACS Applied Materials & Interfaces</i> , 2011, 3, 4075-4084.	8.0	351
28	Integrating Simulations and Experiments To Predict Sheet Resistance and Optical Transmittance in Nanowire Films for Transparent Conductors. <i>ACS Nano</i> , 2013, 7, 7654-7663.	14.6	341
29	Synthesis and Purification of Silver Nanowires To Make Conducting Films with a Transmittance of 99%. <i>Nano Letters</i> , 2015, 15, 6722-6726.	9.1	332
30	On the Polyol Synthesis of Silver Nanostructures: Glycolaldehyde as a Reducing Agent. <i>Nano Letters</i> , 2008, 8, 2077-2081.	9.1	324
31	Programmable diagnostic devices made from paper and tape. <i>Lab on A Chip</i> , 2010, 10, 2499.	6.0	320
32	Integration of photonic and silver nanowire plasmonic waveguides. <i>Nature Nanotechnology</i> , 2008, 3, 660-665.	31.5	313
33	Corrosion-Based Synthesis of Single-Crystal Pd Nanoboxes and Nanocages and Their Surface Plasmon Properties. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 7913-7917.	13.8	305
34	Direct Coupling of Plasmonic and Photonic Nanowires for Hybrid Nanophotonic Components and Circuits. <i>Nano Letters</i> , 2009, 9, 4515-4519.	9.1	301
35	Synthesis of Oxidation-Resistant Cupronickel Nanowires for Transparent Conducting Nanowire Networks. <i>Nano Letters</i> , 2012, 12, 3193-3199.	9.1	297
36	Shape-Controlled Synthesis of Silver and Gold Nanostructures. <i>MRS Bulletin</i> , 2005, 30, 356-361.	3.5	272

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37	Size effects on elasticity, yielding, and fracture of silver nanowires: <i>In situ</i> experiments. <i>Physical Review B</i> , 2012, 85, .	3.2	266
38	Nanocrystals with Unconventional Shapes—A Class of Promising Catalysts. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 7157-7159.	13.8	250
39	One-Dimensional Metal Nanostructures: From Colloidal Syntheses to Applications. <i>Chemical Reviews</i> , 2019, 119, 8972-9073.	47.7	240
40	Plasmonic Waveguide Modes of Film-Coupled Metallic Nanocubes. <i>Nano Letters</i> , 2013, 13, 5866-5872.	9.1	238
41	Optical Near-Field Mapping of Plasmonic Nanoprisms. <i>Nano Letters</i> , 2008, 8, 3357-3363.	9.1	233
42	Oxidative etching for controlled synthesis of metal nanocrystals: atomic addition and subtraction. <i>Chemical Society Reviews</i> , 2014, 43, 6288.	38.1	229
43	Gold nanocages as contrast agents for spectroscopic optical coherence tomography. <i>Optics Letters</i> , 2005, 30, 3048.	3.3	221
44	Copper as a Robust and Transparent Electrocatalyst for Water Oxidation. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 2073-2078.	13.8	209
45	A rapid synthesis of high aspect ratio copper nanowires for high-performance transparent conducting films. <i>Chemical Communications</i> , 2014, 50, 2562-2564.	4.1	201
46	3D printing electronic components and circuits with conductive thermoplastic filament. <i>Additive Manufacturing</i> , 2017, 18, 156-163.	3.0	197
47	A Synthetic Hydrogel Composite with the Mechanical Behavior and Durability of Cartilage. <i>Advanced Functional Materials</i> , 2020, 30, 2003451.	14.9	171
48	Solution-processed copper–nickel nanowire anodes for organic solar cells. <i>Nanoscale</i> , 2014, 6, 5980.	5.6	170
49	Thin, lightweight, foldable thermochromic displays on paper. <i>Lab on A Chip</i> , 2009, 9, 2775.	6.0	167
50	Synthesis and Catalytic Properties of Au–Pd Nanoflowers. <i>ACS Nano</i> , 2011, 5, 6119-6127.	14.6	163
51	A microfluidic apparatus for the study of ice nucleation in supercooled water drops. <i>Lab on A Chip</i> , 2009, 9, 2293.	6.0	151
52	Synthesis and Electrical Characterization of Silver Nanobeams. <i>Nano Letters</i> , 2006, 6, 2273-2278.	9.1	144
53	Synthesis of Cu–Ag, Cu–Au, and Cu–Pt Core–Shell Nanowires and Their Use in Transparent Conducting Films. <i>Chemistry of Materials</i> , 2015, 27, 7788-7794.	6.7	137
54	Synthesis, Stability, and Surface Plasmonic Properties of Rhodium Multipods, and Their Use as Substrates for Surface-Enhanced Raman Scattering. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 1288-1292.	13.8	135

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55	Size-dependent joule heating of gold nanoparticles using capacitively coupled radiofrequency fields. <i>Nano Research</i> , 2009, 2, 400-405.	10.4	133
56	Copper Nanowire Networks with Transparent Oxide Shells That Prevent Oxidation without Reducing Transmittance. <i>ACS Nano</i> , 2014, 8, 9673-9679.	14.6	130
57	3D Printing of a Double Network Hydrogel with a Compression Strength and Elastic Modulus Greater than those of Cartilage. <i>ACS Biomaterials Science and Engineering</i> , 2017, 3, 863-869.	5.2	112
58	Binary colloidal structures assembled through Ising interactions. <i>Nature Communications</i> , 2012, 3, 794.	12.8	110
59	How Copper Nanowires Grow and How To Control Their Properties. <i>Accounts of Chemical Research</i> , 2016, 49, 442-451.	15.6	109
60	Mid-IR Plasmonics: Near-Field Imaging of Coherent Plasmon Modes of Silver Nanowires. <i>Nano Letters</i> , 2009, 9, 2553-2558.	9.1	98
61	Strain-Release Assembly of Nanowires on Stretchable Substrates. <i>ACS Nano</i> , 2011, 5, 1556-1563.	14.6	94
62	Morphological Evolution of Single-Crystal Ag Nanospheres during the Galvanic Replacement Reaction with H ₄ UCl ₄ . <i>Journal of Physical Chemistry C</i> , 2008, 112, 7872-7876.	3.1	91
63	Emergence of winner-takes-all connectivity paths in random nanowire networks. <i>Nature Communications</i> , 2018, 9, 3219.	12.8	88
64	Effect of Morphology on the Electrical Resistivity of Silver Nanostructure Films. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 1870-1876.	8.0	85
65	The Role of Thickness Transitions in Convective Assembly. <i>Nano Letters</i> , 2006, 6, 2249-2253.	9.1	84
66	Fabrication of Surface Plasmon Resonators by Nanoskiving Single-Crystalline Gold Microplates. <i>Nano Letters</i> , 2008, 8, 3023-3028.	9.1	81
67	Single-Crystal Electrochemistry Reveals Why Metal Nanowires Grow. <i>Journal of the American Chemical Society</i> , 2018, 140, 14740-14746.	13.7	76
68	Optically transparent hydrogen evolution catalysts made from networks of copper-platinum core-shell nanowires. <i>Energy and Environmental Science</i> , 2014, 7, 1461-1467.	30.8	74
69	Multigram Synthesis of Cu-Ag Core-Shell Nanowires Enables the Production of a Highly Conductive Polymer Filament for 3D Printing Electronics. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1700385.	2.3	73
70	Time-resolved spectroscopy of silver nanocubes: Observation and assignment of coherently excited vibrational modes. <i>Journal of Chemical Physics</i> , 2007, 126, 094709.	3.0	72
71	Reversible Sliding in Networks of Nanowires. <i>Nano Letters</i> , 2013, 13, 2381-2386.	9.1	71
72	Ethylenediamine Promotes Cu Nanowire Growth by Inhibiting Oxidation of Cu(111). <i>Journal of the American Chemical Society</i> , 2017, 139, 277-284.	13.7	69

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73	Optically Transparent Water Oxidation Catalysts Based on Copper Nanowires. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 13708-13711.	13.8	67
74	Alkaline Water Electrolysis at 25 A cm^{-2} with a Microfibrous Flow-through Electrode. <i>Advanced Energy Materials</i> , 2020, 10, 2001174.	19.5	66
75	The Role of Cuprous Oxide Seeds in the One-Pot and Seeded Syntheses of Copper Nanowires. <i>Small</i> , 2014, 10, 1771-1778.	10.0	63
76	Silver nanowire inks for direct-write electronic tattoo applications. <i>Nanoscale</i> , 2019, 11, 14294-14302.	5.6	63
77	One-step electrodeposition of copper on conductive 3D printed objects. <i>Additive Manufacturing</i> , 2019, 27, 318-326.	3.0	61
78	Microwave metamaterials made by fused deposition 3D printing of a highly conductive copper-based filament. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	58
79	Nanofabrication at High Throughput and Low Cost. <i>ACS Nano</i> , 2010, 4, 3554-3559.	14.6	57
80	Stretchable Conductive Composites from Cu-Ag Nanowire Felt. <i>ACS Nano</i> , 2018, 12, 3689-3698.	14.6	57
81	Environment Matters: CO_2 RR Electrocatalyst Performance Testing in a Gas-Fed Zero-Gap Electrolyzer. <i>ACS Catalysis</i> , 2020, 10, 13096-13108.	11.2	55
82	Modulating the Growth Rate, Aspect Ratio, and Yield of Copper Nanowires with Alkylamines. <i>Chemistry of Materials</i> , 2018, 30, 2809-2818.	6.7	49
83	Computational microwave imaging using 3D printed conductive polymer frequency-diverse metasurface antennas. <i>IET Microwaves, Antennas and Propagation</i> , 2017, 11, 1962-1969.	1.4	47
84	Transparent Air Filters with Active Thermal Sterilization. <i>Nano Letters</i> , 2022, 22, 524-532.	9.1	47
85	Three-Dimensional Printing of a Complete Lithium Ion Battery with Fused Filament Fabrication. <i>ACS Applied Energy Materials</i> , 0, , .	5.1	44
86	Infochemistry and infofuses for the chemical storage and transmission of coded information. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 9147-9150.	7.1	40
87	Effects of length dispersity and film fabrication on the sheet resistance of copper nanowire transparent conductors. <i>Nanoscale</i> , 2015, 7, 14496-14504.	5.6	37
88	Real-Time Visualization of Diffusion-Controlled Nanowire Growth in Solution. <i>Nano Letters</i> , 2014, 14, 4671-4676.	9.1	35
89	In-Place Printing of Carbon Nanotube Transistors at Low Temperature. <i>ACS Applied Nano Materials</i> , 2018, 1, 1863-1869.	5.0	32
90	Selective Electroplating for 3D-Printed Electronics. <i>Advanced Materials Technologies</i> , 2019, 4, 1900126.	5.8	32

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91	Quick formation of single-crystal nanocubes of silver through dual functions of hydrogen gas in polyol synthesis. <i>Chemical Physics Letters</i> , 2005, 411, 479-483.	2.6	31
92	Assembly of Colloidal Molecules, Polymers, and Crystals in Acoustic and Magnetic Fields. <i>Advanced Materials</i> , 2015, 27, 4725-4731.	21.0	31
93	Integrated Fabrication and Magnetic Positioning of Metallic and Polymeric Nanowires Embedded in Thin Epoxy Slabs. <i>ACS Nano</i> , 2009, 3, 3315-3325.	14.6	30
94	From Core-Shell to Alloys: The Preparation and Characterization of Solution-Synthesized AuPd Nanoparticle Catalysts. <i>Journal of Physical Chemistry C</i> , 2013, 117, 17557-17566.	3.1	30
95	Metal Nanowire Felt as a Flow-Through Electrode for High-Productivity Electrochemistry. <i>ACS Nano</i> , 2019, 13, 6998-7009.	14.6	30
96	Accelerating electrochemistry with metal nanowires. <i>Current Opinion in Electrochemistry</i> , 2019, 16, 19-27.	4.8	28
97	Impact of Morphology on Printed Contact Performance in Carbon Nanotube Thin-Film Transistors. <i>Advanced Functional Materials</i> , 2019, 29, 1805727.	14.9	28
98	Bromide Causes Facet-Selective Atomic Addition in Gold Nanorod Syntheses. <i>Chemistry of Materials</i> , 2020, 32, 6410-6415.	6.7	27
99	Three-dimensionally-printed anthropomorphic physical phantom for mammography and digital breast tomosynthesis with custom materials, lesions, and uniform quality control region. <i>Journal of Medical Imaging</i> , 2019, 6, 1.	1.5	27
100	On the road to metallic nanoparticles by rational design: bridging the gap between atomic-level theoretical modeling and reality by total scattering experiments. <i>Nanoscale</i> , 2015, 7, 17902-17922.	5.6	24
101	Fully Printed Memristors from Cu-SiO ₂ Core-Shell Nanowire Composites. <i>Journal of Electronic Materials</i> , 2017, 46, 4596-4603.	2.2	24
102	Isotropic Iodide Adsorption Causes Anisotropic Growth of Copper Microplates. <i>Chemistry of Materials</i> , 2021, 33, 881-891.	6.7	24
103	Imaginary Magnetic Tweezers for Massively Parallel Surface Adhesion Spectroscopy. <i>Nano Letters</i> , 2011, 11, 1681-1684.	9.1	20
104	High-Aspect-Ratio Ag Nanowire Mat Electrodes for Electrochemical CO Production from CO ₂ . <i>ACS Catalysis</i> , 2021, 11, 11945-11959.	11.2	20
105	Photocatalytic Growth of Copper Nanowires from Cu ₂ O Seeds. <i>Chemistry of Materials</i> , 2015, 27, 570-573.	6.7	18
106	Limitations of identical location SEM as a method of degradation studies on surfactant capped nanoparticle electrocatalysts. <i>Journal of Catalysis</i> , 2021, 394, 58-66.	6.2	16
107	The Roles of Citrate and Defects in the Anisotropic Growth of Ag Nanostructures. <i>Chemistry of Materials</i> , 2021, 33, 8301-8311.	6.7	16
108	Colorful Conductive Threads for Wearable Electronics: Transparent Cu-Ag Nanonets. <i>Advanced Science</i> , 2022, 9, .	11.2	16

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109	High-speed, solution-coatable memory based on Cu@SiO ₂ core-shell nanowires. <i>Nanoscale Horizons</i> , 2016, 1, 313-316.	8.0	13
110	Electrochemical investigations of metal nanostructure growth with single crystals. <i>Nanoscale</i> , 2019, 11, 21709-21723.	5.6	12
111	Flash ablation metallization of conductive thermoplastics. <i>Additive Manufacturing</i> , 2020, 36, 101409.	3.0	12
112	Ag-Ag _{0.08} V ₂ O ₅ ·nH ₂ O composite films as host materials for Li ⁺ intercalation. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2005, 202, R79-R81.	1.8	11
113	Understanding the Solution-Phase Growth of Cu and Ag Nanowires and Nanocubes from First Principles. <i>Langmuir</i> , 2021, 37, 4419-4431.	3.5	11
114	Boron Nitride Nanotubes for Heat Dissipation in Polycaprolactone Composites. <i>ACS Applied Nano Materials</i> , 2021, 4, 4774-4780.	5.0	11
115	Resonance wavelength-dependent signal of absorptive particles in surface plasmon resonance-based detection. <i>Sensors and Actuators B: Chemical</i> , 2007, 123, 606-613.	7.8	10
116	The Limits of Primary Radiation Forces in Bulk Acoustic Standing Waves for Concentrating Nanoparticles. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1700470.	2.3	10
117	Stretchable microfluidic electric circuit applied for radio frequency antenna. , 2011, , .		9
118	The resistance of Cu nanowire-nanowire junctions and electro-optical modeling of Cu nanowire networks. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	9
119	Carbamide promoted polyol synthesis and transmittance properties of silver nanocubes. <i>Inorganic Chemistry Frontiers</i> , 2016, 3, 547-555.	6.0	7
120	Eight-Fold Intensification of Electrochemical Azidooxygenation with a Flow-Through Electrode. <i>ACS Sustainable Chemistry and Engineering</i> , 2022, 10, 7648-7657.	6.7	7
121	Third generation anthropomorphic physical phantom for mammography and DBT: incorporating voxelized 3D printing and uniform chest wall QC region. <i>Proceedings of SPIE</i> , 2017, , .	0.8	6
122	3D Conductive Polymer Printed Metasurface Antenna for Fresnel Focusing. <i>Designs</i> , 2019, 3, 46.	2.4	5
123	Using inkjet 3D printing to create contrast-enhanced textured physical phantoms for CT. , 2019, , .		4
124	High-Strength Hydrogel Attachment through Nanofibrous Reinforcement. <i>Advanced Healthcare Materials</i> , 2021, 10, e2001119.	7.6	3
125	Copper Nanowires: The Role of Cuprous Oxide Seeds in the One-Pot and Seeded Syntheses of Copper Nanowires (Small 9/2014). <i>Small</i> , 2014, 10, 1770-1770.	10.0	2
126	3D printed anthropomorphic physical phantom for mammography and DBT with high contrast custom materials, lesions and uniform chest wall region. , 2018, , .		2

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127	Unwrap Them First: Operando Potential- induced Activation Is Required when Using PVP-Capped Ag Nanocubes as Catalysts of CO ₂ Electroreduction. <i>Chimia</i> , 2021, 75, 163-168.	0.6	1
128	Controlling the position-dependent contrast of 3D printed physical phantoms with a single material. , 2019, , .		1
129	Technical Note: Controlling the attenuation of 3D printed physical phantoms for computed tomography with a single material. <i>Medical Physics</i> , 2022, , .	3.0	1
130	Vibrational spectroscopy and energy relaxation of nanocubes, nanoboxes, and nanocages. , 2006, , .		0
131	Shape-Controlled Synthesis of Metal Nanostructures: The Case of Silver. <i>ChemInform</i> , 2006, 37, no.	0.0	0
132	Fully printed memristors from Cu-SiO ₂ core-shell nanowire composites. , 2017, , .		0
133	Exploring Silver Contact Morphologies in Printed Carbon Nanotube Thin-Film Transistors. , 2018, , .		0
134	Flaw sensitivity and tensile fatigue of a high-strength hydrogel. <i>International Journal of Fatigue</i> , 2022, 163, 107071.	5.7	0
135	Single-Crystal Electrochemistry Uncovers the Role of Citrate in the Anisotropic Growth of Ag Nanostructures. <i>ECS Meeting Abstracts</i> , 2022, MA2022-01, 1182-1182.	0.0	0