Zhiqiang Fang

List of Publications by Year
in descending order

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121 papers	6,540 citations	101496 36 h-index	64755 79 g-index
123 all docs	123 docs citations	123 times ranked	7905 citing authors

#	Article	IF	Citations
1	Wood-Derived Materials for Green Electronics, Biological Devices, and Energy Applications. Chemical Reviews, 2016, 116, 9305-9374.	23.0	1,110
2	Transparent paper: fabrications, properties, and device applications. Energy and Environmental Science, 2014, 7, 269-287.	15.6	457
3	Highly Thermally Conductive Papers with Percolative Layered Boron Nitride Nanosheets. ACS Nano, 2014, 8, 3606-3613.	7.3	425
4	Novel Nanostructured Paper with Ultrahigh Transparency and Ultrahigh Haze for Solar Cells. Nano Letters, 2014, 14, 765-773.	4.5	419
5	Biodegradable transparent substrates for flexible organic-light-emitting diodes. Energy and Environmental Science, 2013, 6, 2105.	15.6	281
6	Nanocellulose as green dispersant for two-dimensional energy materials. Nano Energy, 2015, 13, 346-354.	8.2	270
7	Flexible and Highly Sensitive Humidity Sensor Based on Cellulose Nanofibers and Carbon Nanotube Composite Film. Langmuir, 2019, 35, 4834-4842.	1.6	183
8	A Janus evaporator with low tortuosity for long-term solar desalination. Journal of Materials Chemistry A, 2019, 7, 15333-15340.	5.2	170
9	Extreme Light Management in Mesoporous Wood Cellulose Paper for Optoelectronics. ACS Nano, 2016, 10, 1369-1377.	7.3	161
10	Silver nanowire transparent conducting paper-based electrode with high optical haze. Journal of Materials Chemistry C, 2014, 2, 1248-1254.	2.7	131
11	Highly transparent paper with tunable haze for green electronics. Energy and Environmental Science, 2014, 7, 3313-3319.	15.6	123
12	Highly transparent and writable wood all-cellulose hybrid nanostructured paper. Journal of Materials Chemistry C, 2013, 1, 6191.	2.7	117
13	Nanocellulose-based films and their emerging applications. Current Opinion in Solid State and Materials Science, 2019, 23, 100764.	5.6	109
14	Critical Role of Degree of Polymerization of Cellulose in Super-Strong Nanocellulose Films. Matter, 2020, 2, 1000-1014.	5.0	106
15	Strong transparent magnetic nanopaper prepared by immobilization of Fe3O4 nanoparticles in a nanofibrillated cellulose network. Journal of Materials Chemistry A, 2013, 1, 15278.	5.2	104
16	Hybridizing wood cellulose and graphene oxide toward high-performance fibers. NPG Asia Materials, 2015, 7, e150-e150.	3.8	95
17	A gravure printed antenna on shape-stable transparent nanopaper. Nanoscale, 2014, 6, 9110.	2.8	85
18	Low-temperature fabrication of sputtered high-k HfO2 gate dielectric for flexible a-IGZO thin film transistors. Applied Physics Letters, 2018, 112, .	1.5	84

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19	Isotropic Paper Directly from Anisotropic Wood: Top-Down Green Transparent Substrate Toward Biodegradable Electronics. ACS Applied Materials & Interfaces, 2018, 10, 28566-28571.	4.0	79
20	Nanocellulose-based Translucent Diffuser for Optoelectronic Device Applications with Dramatic Improvement of Light Coupling. ACS Applied Materials & Interfaces, 2015, 7, 26860-26864.	4.0	72
21	Paper in Electronic and Optoelectronic Devices. Advanced Electronic Materials, 2018, 4, 1700593.	2.6	70
22	Lignin: a sustainable photothermal block for smart elastomers. Green Chemistry, 2022, 24, 823-836.	4.6	64
23	Lightweight, conductive hollow fibers from nature as sustainable electrode materials for microbial energy harvesting. Nano Energy, 2014, 10, 268-276.	8.2	63
24	Paperâ€Based Antiâ€Reflection Coatings for Photovoltaics. Advanced Energy Materials, 2014, 4, 1301804.	10.2	62
25	Scalable, printable, surfactant-free graphene ink directly from graphite. Nanotechnology, 2013, 24, 205304.	1.3	59
26	Approaching Theoretical Haze of Highly Transparent All-Cellulose Composite Films. ACS Applied Materials & Interfaces, 2020, 12, 31998-32005.	4.0	59
27	Development, application and commercialization of transparent paper. Translational Materials Research, 2014, 1, 015004.	1.2	54
28	High Mobility Amorphous Indium-Gallium-Zinc-Oxide Thin-Film Transistor by Aluminum Oxide Passivation Layer. IEEE Electron Device Letters, 2017, 38, 879-882.	2.2	54
29	A new photoelectric ink based on nanocellulose/CdS quantum dots for screen-printing. Carbohydrate Polymers, 2016, 148, 29-35.	5.1	52
30	A full utilization of rice husk to evaluate phytochemical bioactivities and prepare cellulose nanocrystals. Scientific Reports, 2018, 8, 10482.	1.6	52
31	Designed biomass materials for â€œgreenâ€•electronics: A review of materials, fabrications, devices, and perspectives. Progress in Materials Science, 2022, 125, 100917.	16.0	52
32	Efficient Removal of Cu²⁺ in Water by Carboxymethylated Cellulose Nanofibrils: Performance and Mechanism. Biomacromolecules, 2019, 20, 4466-4475.	2.6	51
33	Programmable Shape Recovery Process of Water-Responsive Shape-Memory Poly(vinyl alcohol) by Wettability Contrast Strategy. ACS Applied Materials & Interfaces, 2017, 9, 5495-5502.	4.0	50
34	Transparent and Hazy All-Cellulose Composite Films with Superior Mechanical Properties. ACS Sustainable Chemistry and Engineering, 2018, 6, 6974-6980.	3.2	50
35	Durable superhydrophobic paper enabled by surface sizing of starch-based composite films. Applied Surface Science, 2017, 409, 45-51.	3.1	49
36	Versatile Wood Cellulose for Biodegradable Electronics. Advanced Materials Technologies, 2021, 6, 2000928.	3.0	40

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37	Flexible, transparent, and conductive defrosting glass. Thin Solid Films, 2014, 556, 13-17.	0.8	39
38	High-performance flexible oxide TFTs: optimization of a-IGZO film by modulating the voltage waveform of pulse DC magnetron sputtering without post treatment. Journal of Materials Chemistry C, 2018, 6, 2522-2532.	2.7	38
39	Room-Temperature Fabrication of High-Performance Amorphous Inâ€“Gaâ€“Znâ€“O/Al‹sub›2‹/sub›O‹sub›3‹/sub› Thin-Film Transistors on Ultrasmooth and Clear Nanopaper. ACS Applied Materials & Interfaces, 2017, 9, 27792-27800.	4.0	35
40	Aqueous Gating of van der Waals Materials on Bilayer Nanopaper. ACS Nano, 2014, 8, 10606-10612.	7.3	31
41	Enhancing moisture resistance of starch-coated paper by improving the film forming capability of starch film. Industrial Crops and Products, 2017, 100, 12-18.	2.5	30
42	Direct patterning of silver electrodes with 2.4 Î¼m channel length by piezoelectric inkjet printing. Journal of Colloid and Interface Science, 2017, 487, 68-72.	5.0	30
43	Effect of ITO Serving as a Barrier Layer for Cu Electrodes on Performance of a-IGZO TFT. IEEE Electron Device Letters, 2018, 39, 504-507.	2.2	30
44	Monodispersed Lignin Colloidal Spheres with Tailorable Sizes for Bioâ€Photonic Materials. Small, 2022, 18, e2200671.	5.2	28
45	Superâ€Clear Nanopaper from Agroâ€Industrial Waste for Green Electronics. Advanced Electronic Materials, 2017, 3, 1600539.	2.6	27
46	Human Dermal Fibroblast Viability and Adhesion on Cellulose Nanomaterial Coatings: Influence of Surface Characteristics. Biomacromolecules, 2020, 21, 1560-1567.	2.6	27
47	Highly Transparent and Self-Extinguishing Nanofibrillated Cellulose-Monolayer Clay Nanoplatelet Hybrid Films. Langmuir, 2017, 33, 8455-8462.	1.6	26
48	Direct Inkjet Printing of Silver Source/Drain Electrodes on an Amorphous InGaZnO Layer for Thin-Film Transistors. Materials, 2017, 10, 51.	1.3	26
49	Flexible and biocompatible nanopaper-based electrode arrays for neural activity recording. Nano Research, 2018, 11, 5604-5614.	5.8	26
50	Solvent resistance of 2,2,6,6-tetramethylpiperidine-1-oxyl (TEMPO) treated cellulose nanofiber film for flexible electronics. Cellulose, 2016, 23, 1979-1987.	2.4	24
51	A Simple Method for High-Performance, Solution-Processed, Amorphous ZrO2 Gate Insulator TFT with a High Concentration Precursor. Materials, 2017, 10, 972.	1.3	24
52	A study on the transmission haze and mechanical properties of highly transparent paper with different fiber species. Cellulose, 2018, 25, 2051-2061.	2.4	23
53	Protonation Process to Enhance the Water Resistance of Transparent and Hazy Paper. ACS Sustainable Chemistry and Engineering, 2018, 6, 12385-12392.	3.2	23
54	Inkjet Printed Electrodes in Thin Film Transistors. IEEE Journal of the Electron Devices Society, 2018, 6, 774-790.	1.2	22

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55	Starch/polyvinyl alcohol (PVA)-coated painting paper with exceptional organic solvent barrier properties for art preservation purposes. Journal of Materials Science, 2018, 53, 5450-5457.	1.7	21
56	Effect of Post Treatment For Cu-Cr Source/Drain Electrodes on a-IGZO TFTs. Materials, 2016, 9, 623.	1.3	20
57	Advanced Broadband Antireflection Coatings Based on Cellulose Microfiber Paper. IEEE Journal of Photovoltaics, 2015, 5, 577-583.	1.5	19
58	Light Management in Flexible Glass by Wood Cellulose Coating. Scientific Reports, 2014, 4, 5842.	1.6	19
59	Effect of Al₂O₃ Passivation Layer and Cu Electrodes on High Mobility of Amorphous IZO TFT. IEEE Journal of the Electron Devices Society, 2018, 6, 733-737.	1.2	19
60	A novel nondestructive testing method for amorphous Siâ€“Snâ€“O films. Journal Physics D: Applied Physics, 2016, 49, 505102.	1.3	18
61	Mobility Enhancement in Amorphous In-Ga-Zn-O Thin-Film Transistor by Induced Metallic in Nanoparticles and Cu Electrodes. Nanomaterials, 2018, 8, 197.	1.9	18
62	Mechanically strong and electrically stable polypyrrole paper using high molecular weight sulfonated alkaline lignin as a dispersant and dopant. Journal of Colloid and Interface Science, 2019, 556, 47-53.	5.0	18
63	Influence of the S:Ni ratio in raw materials on the NixSy electrocatalysts. Applied Surface Science, 2019, 491, 590-594.	3.1	18
64	Effect of Intrinsic Stress on Structural and Optical Properties of Amorphous Si-Doped SnO2 Thin-Film. Materials, 2017, 10, 24.	1.3	15
65	Effective dispersion of aqueous clay suspension using carboxylated nanofibrillated cellulose as dispersant. RSC Advances, 2016, 6, 37330-37336.	1.7	14
66	Homogeneous Surface Profiles of Inkjet-Printed Silver Nanoparticle Films by Regulating Their Drying Microenvironment. Journal of Physical Chemistry C, 2017, 121, 8992-8998.	1.5	14
67	Reduced contact resistance of a-IGZO thin film transistors with inkjet-printed silver electrodes. Journal Physics D: Applied Physics, 2018, 51, 165103.	1.3	14
68	Critical Impact of Solvent Evaporation on the Resolution of Inkjet Printed Nanoparticles Film. ACS Applied Materials & Interfaces, 2018, 10, 22883-22888.	4.0	14
69	Strong Cellulose-Based Materials by Coupling Sodium Hydroxideâ€“Anthraquinone (NaOHâ€“AQ) Pulping with Hot Pressing from Wood. ACS Omega, 2019, 4, 7861-7865.	1.6	13
70	One-pot synthesis of nickel sulfide with sulfur powder as sulfur source in solution and their electrochemical properties for hydrogen evolution reaction. Inorganic Chemistry Communication, 2017, 79, 1-4.	1.8	12
71	Amorphous InGaZnO Thin Film Transistor Fabricated with Printed Silver Salt Ink Source/Drain Electrodes. Applied Sciences (Switzerland), 2017, 7, 844.	1.3	12
72	Thermal effect of annealing-temperature on solution-processed high-k ZrO₂ dielectrics. RSC Advances, 2019, 9, 42415-42422.	1.7	12

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73	High-performance spin-coated aluminum oxide dielectric fabricated by a simple oxygen plasma-treatment process. Journal Physics D: Applied Physics, 2018, 51, 365101.	1.3	11
74	Wood-inspired strategy to toughen transparent cellulose nanofibril films. Carbohydrate Polymers, 2021, 259, 117759.	5.1	11
75	Molecular design and experimental study of cellulose conversion to 5-hydroxymethylfurfural catalyzed by different ratios of BrÃ¸nsted/Lewis acid ionic liquids. Carbohydrate Polymers, 2022, 278, 118936.	5.1	11
76	A Tunable Photoluminescent Composite of Cellulose Nanofibrils and CdS Quantum Dots. Nanomaterials, 2016, 6, 164.	1.9	10
77	Effect of Source/Drain Electrodes on the Electrical Properties of Siliconâ€“Tin Oxide Thin-Film Transistors. Nanomaterials, 2018, 8, 293.	1.9	10
78	Fabrication of high-performance solution processed thin film transistors by introducing a buffer layer. Applied Surface Science, 2020, 504, 144360.	3.1	10
79	Favorable combination of foldability and toughness of transparent cellulose nanofibril films by a PET fiber-reinforced strategy. International Journal of Biological Macromolecules, 2020, 164, 3268-3274.	3.6	10
80	Inkjet printing of homogeneous and green cellulose nanofibril dielectrics for high performance IGZO TFTs. Journal of Materials Chemistry C, 2020, 8, 12578-12586.	2.7	10
81	Fabrication of flexible electrochromic film based on amorphous isopolytungstate by low-temperature inkjet-printed process with a solution crystallization kinetic-controlled strategy. Chemical Engineering Journal, 2022, 427, 131840.	6.6	10
82	Bias Stability Enhancement in Thin-Film Transistor with a Solution-Processed ZrO2 Dielectric as Gate Insulator. Applied Sciences (Switzerland), 2018, 8, 806.	1.3	9
83	Investigation of direct inkjet-printed versus spin-coated ZrO2 for sputter IGZO thin film transistor. Nanoscale Research Letters, 2019, 14, 80.	3.1	9
84	The Application of Starch - Sodium Alginate Composite Coating on Transparent Paper for Food Packaging. Advanced Materials Research, 2014, 893, 472-477.	0.3	8
85	UV-Cured Inkjet-Printed Silver Gate Electrode with Low Electrical Resistivity. Nanoscale Research Letters, 2017, 12, 546.	3.1	8
86	Highly Conductive and Transparent AZO Films Fabricated by PLD as Source/Drain Electrodes for TFTs. Materials, 2018, 11, 2480.	1.3	8
87	Effect of Molecular Weight on the Reactivity and Dispersibility of Sulfomethylated Alkali Lignin Modified by Horseradish Peroxidase. ACS Sustainable Chemistry and Engineering, 2018, 6, 14197-14202.	3.2	8
88	Induced nano-scale self-formed metal-oxide interlayer in amorphous silicon tin oxide thin film transistors. Scientific Reports, 2018, 8, 4160.	1.6	7
89	Gelâ€Switchable Droplet Front for Largeâ€Scale Uniformity of Inkjet Printed Silver Patterns. Advanced Materials Technologies, 2019, 4, 1800243.	3.0	7
90	Effect of oxygen pressure on GZO film as active layer of the TFT fabricated at room temperature. Superlattices and Microstructures, 2020, 137, 106317.	1.4	7

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91	A systematic study for the structures and properties of phosphorylated pulp fibers prepared under various conditions. Cellulose, 2022, 29, 7365-7376.	2.4	7
92	Rapid Dissolving-Debonding Strategy for Optically Transparent Paper Production. Scientific Reports, 2016, 5, 17703.	1.6	6
93	High Conductivity and Adhesion of Cu-Cr-Zr Alloy for TFT Gate Electrode. Applied Sciences (Switzerland), 2017, 7, 820.	1.3	6
94	Insight into the dispersive mechanism of Carboxylated Nanofibrilllated cellulose for individual montmorillonite in water. Composites Part B: Engineering, 2019, 177, 107399.	5.9	6
95	Rapid preparation of highly transparent paper with high built-in haze by an ion exchange approach. Chemical Engineering Journal, 2022, 439, 135776.	6.6	6
96	Capillary force induced air film for self-aligned short channel: pushing the limits of inkjet printing. Soft Matter, 2018, 14, 9402-9410.	1.2	5
97	Paper-Based Electronics: Paper in Electronic and Optoelectronic Devices (Adv. Electron. Mater. 5/2018). Advanced Electronic Materials, 2018, 4, 1870025.	2.6	5
98	Application of Chitosan as a Barrier Coating on Coated Ivory Board. Applied Mechanics and Materials, 2012, 200, 180-185.	0.2	4
99	Highly conductive AZO thin films obtained by rationally optimizing substrate temperature and oxygen partial pressure. Molecular Crystals and Liquid Crystals, 2017, 644, 190-196.	0.4	4
100	Evaporation induced hollow cracks and the adhesion of silver nanoparticle film. Journal of Materials Science, 2019, 54, 7987-7996.	1.7	4
101	Effective Evaluation Strategy Toward Low Temperature Solution-Processed Oxide Dielectrics for TFT Device. IEEE Journal of the Electron Devices Society, 2019, 7, 1140-1144.	1.2	4
102	Wood Cellulose Paper for Solar Cells. , 2020, , 279-295.		4
103	Transparent montmorillonite/cellulose nanofibril nanocomposite films: the influence of exfoliation degree and interfacial interaction. Cellulose, 2022, 29, 7111-7124.	2.4	4
104	Solar Cells: Paperâ€Based Antiâ€Reflection Coatings for Photovoltaics (Adv. Energy Mater. 9/2014). Advanced Energy Materials, 2014, 4, .	10.2	3
105	The effect of different annealing temperature on transparent conductive SnO₂ thin film by solution process. Molecular Crystals and Liquid Crystals, 2018, 676, 44-49.	0.4	3
106	A study of contact properties between molybdenum and amorphous silicon tin oxide thin film transistors. Journal of the Society for Information Display, 2018, 26, 681-686.	0.8	3
107	All-Sputtering, High-Transparency, Good-Stability Coplanar Top-Gate Thin Film Transistors. Applied Sciences (Switzerland), 2019, 9, 83.	1.3	3
108	Evaluation of Ndâ€“Al doped indium-zinc oxide thin-film transistors by a Î¼-PCD method. Semiconductor Science and Technology, 2019, 34, 055011.	1.0	3

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109	Research progress on the formation mechanism of azeotrope and its separation process in microwave field. Journal of Chemical Technology and Biotechnology, 2022, 97, 1045-1063.	1.6	3
110	A Facile Approach to Evaluate Thermal Insulation Performance of Paper Cups. International Journal of Polymer Science, 2015, 2015, 1-8.	1.2	2
111	Solâ€“gel synthesis of large-sized polycrystalline stannous oxide and its oxidation behavior. CrystEngComm, 2020, 22, 1834-1838.	1.3	2
112	Inkjet printing satellite-free silver electrodes array in a-IGZO TFTs by regulating piezoelectric waveforms. Molecular Crystals and Liquid Crystals, 2018, 676, 36-43.	0.4	1
113	Zigzag Hollow Cracks of Silver Nanoparticle Film Regulated by Its Drying Micro-environment. Nanoscale Research Letters, 2018, 13, 354.	3.1	1
114	Fabrication and Properties of Silver Nanowire Flexible Transparent Electrode. , 2018, , .		1
115	A Strategy toward Realizing Ultrashort Channels and Microstructures Array by Piezoelectric Inkjet Printing. Nanomaterials, 2019, 9, 1515.	1.9	1
116	Synthesis of silver nanorings through a glycerol-base polyol method. Molecular Crystals and Liquid Crystals, 0, , 1-7.	0.4	1
117	48.2: Invited Paper: High conductivity & transparent aluminumâ€based multiâ€layer source/drain electrodes for thin film transistors. Digest of Technical Papers SID International Symposium, 2018, 49, 504-508.	0.1	0
118	35.3: Selfâ€formed nanoâ€scale metalâ€oxide contact interlayer for amorphous silicon tin oxide TFTs. Digest of Technical Papers SID International Symposium, 2018, 49, 385-394.	0.1	0
119	The characters of WO<inf>3</inf> electrochromic film prepared by sol-gel method. , 2018, , .		0
120	48.1: Invited Paper: Inkjet printing of homogeneous and green cellulose nanofibrils dielectric for high performance IGZO TFTs. Digest of Technical Papers SID International Symposium, 2021, 52, 580-581.	0.1	0
121	Properties of AZO/Al2O3 Stacked Thin Film Transistors Prepared at Room Temperature. Chinese Journal of Luminescence, 2016, 37, 1372-1377.	0.2	0