

Xiang-Yang Liu

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108
papers

4,040
citations

37
h-index

61
g-index

111
ext. papers

4,926
ext. citations

10.9
avg, IF

5.92
L-index

#	Paper	IF	Citations
108	Design of superior spider silk: from nanostructure to mechanical properties. <i>Biophysical Journal</i> , 2006 , 91, 4528-35	2.9	240
107	Memristor with Ag-Cluster-Doped TiO ₂ Films as Artificial Synapse for Neuroinspired Computing. <i>Advanced Functional Materials</i> , 2018 , 28, 1705320	15.6	221
106	Structural Origin of the Strain-Hardening of Spider Silk. <i>Advanced Functional Materials</i> , 2011 , 21, 772-778	5.6	184
105	Multiple Structural Coloring of Silk-Fibroin Photonic Crystals and Humidity-Responsive Color Sensing. <i>Advanced Functional Materials</i> , 2013 , 23, 5373-5380	15.6	167
104	Stretchable, Biocompatible, and Multifunctional Silk Fibroin-Based Hydrogels toward Wearable Strain/Pressure Sensors and Triboelectric Nanogenerators. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 6442-6450	9.5	147
103	How does a transient amorphous precursor template crystallization. <i>Journal of the American Chemical Society</i> , 2007 , 129, 13520-6	16.4	147
102	Intrinsically colored and luminescent silk. <i>Advanced Materials</i> , 2011 , 23, 1463-6	24	120
101	Crystal networks in silk fibrous materials: from hierarchical structure to ultra performance. <i>Small</i> , 2015 , 11, 1039-54	11	118
100	Recent advancements in perovskite solar cells: flexibility, stability and large scale. <i>Journal of Materials Chemistry A</i> , 2016 , 4, 6755-6771	13	118
99	Control of ice nucleation: freezing and antifreeze strategies. <i>Chemical Society Reviews</i> , 2018 , 47, 7116-7139	39	113
98	In situ growth of CuS and Cu _{1.8} S nanosheet arrays as efficient counter electrodes for quantum dot-sensitized solar cells. <i>Journal of Materials Chemistry A</i> , 2015 , 3, 9595-9600	13	108
97	Silk Composite Electronic Textile Sensor for High Space Precision 2D Combo Temperature-Pressure Sensing. <i>Small</i> , 2019 , 15, e1901558	11	100
96	Nucleation: what happens at the initial stage?. <i>Angewandte Chemie - International Edition</i> , 2009 , 48, 1308-1314	16.4	99
95	Full-Textile Wireless Flexible Humidity Sensor for Human Physiological Monitoring. <i>Advanced Functional Materials</i> , 2019 , 29, 1904549	15.6	98
94	A Biodegradable and Stretchable Protein-Based Sensor as Artificial Electronic Skin for Human Motion Detection. <i>Small</i> , 2019 , 15, e1805084	11	89
93	Recent advances in quantum dot-sensitized solar cells: insights into photoanodes, sensitizers, electrolytes and counter electrodes. <i>Sustainable Energy and Fuels</i> , 2017 , 1, 1217-1231	5.8	86
92	Recent Development of Transparent Conducting Oxide-Free Flexible Thin-Film Solar Cells. <i>Advanced Functional Materials</i> , 2016 , 26, 8855-8884	15.6	72

91	Correlation between hierarchical structure of crystal networks and macroscopic performance of mesoscopic soft materials and engineering principles. <i>Chemical Society Reviews</i> , 2015 , 44, 7881-915	58.5	66
90	Mesoscopic-Functionalization of Silk Fibroin with Gold Nanoclusters Mediated by Keratin and Bioinspired Silk Synapse. <i>Small</i> , 2017 , 13, 1702390	11	58
89	Nano-Fishnet Structure Making Silk Fibers Tougher. <i>Advanced Functional Materials</i> , 2016 , 26, 5534-5541	15.6	55
88	Functionalization of Silk Fibroin Materials at Mesoscale. <i>Advanced Functional Materials</i> , 2016 , 26, 8885-8992	15.6	55
87	Programing Performance of Wool Keratin and Silk Fibroin Composite Materials by Mesoscopic Molecular Network Reconstruction. <i>Advanced Functional Materials</i> , 2016 , 26, 9032-9043	15.6	54
86	Stretchable and Heat-Resistant Protein-Based Electronic Skin for Human Thermoregulation. <i>Advanced Functional Materials</i> , 2020 , 30, 1910547	15.6	53
85	Hierarchical Structure of Silk Materials Versus Mechanical Performance and Mesoscopic Engineering Principles. <i>Small</i> , 2019 , 15, e1903948	11	48
84	Construction of White-Light-Emitting Silk Protein Hybrid Films by Molecular Recognized Assembly among Hierarchical Structures. <i>Advanced Functional Materials</i> , 2014 , 24, 5284-5290	15.6	46
83	Programing Performance of Silk Fibroin Materials by Controlled Nucleation. <i>Advanced Functional Materials</i> , 2016 , 26, 8978-8990	15.6	46
82	Molecular Hybrid Optical Limiting Materials from Polyhedral Oligomer Silsequioxane: Preparation and Relationship between Molecular Structure and Properties. <i>Macromolecules</i> , 2010 , 43, 2840-2845	5.5	45
81	All-Textile Electronic Skin Enabled by Highly Elastic Spacer Fabric and Conductive Fibers. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 33336-33346	9.5	44
80	Unraveled mechanism in silk engineering: Fast reeling induced silk toughening. <i>Applied Physics Letters</i> , 2009 , 95, 093703	3.4	43
79	Engineering of fluorescent emission of silk fibroin composite materials by material assembly. <i>Small</i> , 2015 , 11, 1205-14	11	41
78	Silk Flexible Electronics: From Bombyx mori Silk Ag Nanoclusters Hybrid Materials to Mesoscopic Memristors and Synaptic Emulators. <i>Advanced Functional Materials</i> , 2019 , 29, 1904777	15.6	41
77	Controllable Preparation and Optical Limiting Properties of POSS-Based Functional Hybrid Nanocomposites with Different Molecular Architectures. <i>Macromolecules</i> , 2009 , 42, 8969-8976	5.5	40
76	Meso-Functionalization of Silk Fibroin by Upconversion Fluorescence and Near Infrared In Vivo Biosensing. <i>Advanced Functional Materials</i> , 2017 , 27, 1700628	15.6	39
75	Using Wool Keratin as a Basic Resist Material to Fabricate Precise Protein Patterns. <i>Advanced Materials</i> , 2019 , 31, e1900870	24	39
74	Total morphosynthesis of biomimetic prismatic-type CaCO thin films. <i>Nature Communications</i> , 2017 , 8, 1398	17.4	38

73	Switching on Fluorescent Emission by Molecular Recognition and Aggregation Dissociation. <i>Advanced Functional Materials</i> , 2012 , 22, 361-368	15.6	37
72	Zero-sized effect of nano-particles and inverse homogeneous nucleation. Principles of freezing and antifreeze. <i>Journal of Biological Chemistry</i> , 2004 , 279, 6124-31	5.4	37
71	Experimental modelling of single-particle dynamic processes in crystallization by controlled colloidal assembly. <i>Chemical Society Reviews</i> , 2014 , 43, 2324-47	58.5	36
70	Controlled Colloidal Assembly: Experimental Modeling of General Crystallization and Biomimicking of Structural Color. <i>Advanced Functional Materials</i> , 2012 , 22, 1354-1375	15.6	36
69	Graphene decorated carbonized cellulose fabric for physiological signal monitoring and energy harvesting. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 12665-12673	13	34
68	Stilbene-containing polyacetylenes: Molecular design, synthesis, and relationship between molecular structure and NLO properties. <i>Journal of Polymer Science Part A</i> , 2008 , 46, 4529-4541	2.5	29
67	Thermally stable oxadiazole-containing polyacetylenes: Relationship between molecular structure and nonlinear optical properties. <i>Journal of Materials Chemistry</i> , 2008 , 18, 4204		28
66	Transparent, stretchable and degradable protein electronic skin for biomechanical energy scavenging and wireless sensing. <i>Biosensors and Bioelectronics</i> , 2020 , 169, 112567	11.8	28
65	Design and engineering of silk fibroin scaffolds with biomimetic hierarchical structures. <i>Chemical Communications</i> , 2013 , 49, 1431-3	5.8	27
64	Highly flexible, transparent and conducting CuS-nanosheet networks for flexible quantum-dot solar cells. <i>Nanoscale</i> , 2017 , 9, 3826-3833	7.7	26
63	From Molecular Reconstruction of Mesoscopic Functional Conductive Silk Fibrous Materials to Remote Respiration Monitoring. <i>Small</i> , 2020 , 16, e2000203	11	26
62	Flexible and Insoluble Artificial Synapses Based on Chemical Cross-Linked Wool Keratin. <i>Advanced Functional Materials</i> , 2020 , 30, 2002882	15.6	25
61	Seeded Mineralization Leads to Hierarchical CaCO Thin Coatings on Fibers for Oil/Water Separation Applications. <i>Langmuir</i> , 2018 , 34, 2942-2951	4	22
60	Controllable and large-scale fabrication of rectangular CuS network films for indium tin oxide-and Pt-free flexible dye-sensitized solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2018 , 179, 297-304	6.4	22
59	Effect of size and crystalline phase of TiO nanotubes on cell behaviors: A high throughput study using gradient TiO nanotubes. <i>Bioactive Materials</i> , 2020 , 5, 1062-1070	16.7	21
58	Smart electrochromic supercapacitors based on highly stable transparent conductive graphene/CuS network electrodes. <i>RSC Advances</i> , 2017 , 7, 29088-29095	3.7	20
57	Rational Design of Silver Gradient for Studying Size Effect of Silver Nanoparticles on Contact Killing. <i>ACS Biomaterials Science and Engineering</i> , 2019 , 5, 425-431	5.5	20
56	High-Throughput Screening of Rat Mesenchymal Stem Cell Behavior on Gradient TiO Nanotubes. <i>ACS Biomaterials Science and Engineering</i> , 2018 , 4, 2804-2814	5.5	19

55	Interplay between Light and Functionalized Silk Fibroin and Applications. <i>IScience</i> , 2020 , 23, 101035	6.1	19
54	Colloidal phase transition driven by alternating electric field. <i>Journal of Chemical Physics</i> , 2006 , 124, 124906	9.6	18
53	Synthesis of hierarchical lamellar Co ₃ O ₄ /CoMoO ₄ heterostructures for lithium-ion batteries. <i>Journal of Materials Chemistry A</i> , 2019 , 7, 26884-26892	13	18
52	Controllable and large-scale fabrication of flexible ITO-free electrochromic devices by crackle pattern technology. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 19584-19589	13	18
51	Ultraflexible, stretchable and fast-switching electrochromic devices with enhanced cycling stability.. <i>RSC Advances</i> , 2018 , 8, 18690-18697	3.7	18
50	Pulsed electrochemical deposition of porous WO ₃ on silver networks for highly flexible electrochromic devices. <i>Journal of Materials Chemistry C</i> , 2019 , 7, 1966-1973	7.1	17
49	A facile method to prepare a wearable pressure sensor based on fabric electrodes for human motion monitoring. <i>Textile Reseach Journal</i> , 2019 , 89, 5144-5152	1.7	17
48	The textural properties and microstructure of konjac glucomannan - tungsten gels induced by DC electric fields. <i>Food Chemistry</i> , 2016 , 212, 256-63	8.5	17
47	Transparent conducting oxide- and Pt-free flexible photo-rechargeable electric energy storage systems. <i>RSC Advances</i> , 2017 , 7, 52988-52994	3.7	17
46	Fabrication of durable hierarchical superhydrophobic fabrics with Sichuan pepper-like structures via graft precipitation polymerization. <i>Applied Surface Science</i> , 2020 , 529, 147017	6.7	14
45	An efficient disposable and flexible electrochemical sensor based on a novel and stable metal carbon composite derived from cocoon silk. <i>Biosensors and Bioelectronics</i> , 2019 , 142, 111595	11.8	14
44	Meso-Reconstruction of Silk Fibroin based on Molecular and Nano-Templates for Electronic Skin in Medical Applications. <i>Advanced Functional Materials</i> , 2021 , 31, 2100150	15.6	14
43	Tailoring the Meso-Structure of Gold Nanoparticles in Keratin-Based Activated Carbon Toward High-Performance Flexible Sensor. <i>Nano-Micro Letters</i> , 2020 , 12, 117	19.5	13
42	Aqueous supercapacitors based on carbonized silk electrodes.. <i>RSC Advances</i> , 2018 , 8, 22146-22153	3.7	13
41	Fibrous inductance strain sensors for passive inductance textile sensing. <i>Materials Today Physics</i> , 2020 , 15, 100243	8	11
40	Primary and Secondary Mesoscopic Hybrid Materials of Au Nanoparticles@Silk Fibroin and Applications. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 30125-30136	9.5	11
39	New Silk Road: From Mesoscopic Reconstruction/Functionalization to Flexible Meso-Electronics/Photonics Based on Cocoon Silk Materials. <i>Advanced Materials</i> , 2021 , e2005910	24	11
38	Silk Fluorescence Collimator for Ultrasensitive Humidity Sensing and Light-Harvesting in Semitransparent Dye-Sensitized Solar Cells. <i>Small</i> , 2019 , 15, e1804171	11	10

37	A simple route to fiber-shaped heterojunctioned nanocomposites for knittable high-performance supercapacitors. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 11589-11597	13	10
36	Flexible, controllable and angle-independent photoelectrochromic display enabled by smart sunlight management. <i>Nano Energy</i> , 2019 , 63, 103830	17.1	9
35	Design of Heterogeneous Nuclei for Lateral Crystallization via Uniaxial Assembly of Cellulose Nanocrystals. <i>Crystal Growth and Design</i> , 2016 , 16, 4620-4626	3.5	9
34	Flexible fiber-shaped liquid/quasi-solid-state quantum dot-sensitized solar cells based on different metal sulfide counter electrodes. <i>Applied Physics Letters</i> , 2018 , 113, 043901	3.4	9
33	Chemical Decoration of Perovskites by Nickel Oxide Doping for Efficient and Stable Perovskite Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 36841-36850	9.5	9
32	Stretchable, Stable, and Degradable Silk Fibroin Enabled by Mesoscopic Doping for Finger Motion Triggered Color/Transmittance Adjustment. <i>ACS Nano</i> , 2021 ,	16.7	9
31	Design of Heterogeneous Nuclei Composed of Uniaxial Cellulose Nanocrystal Assemblies for Epitaxial Growth of Poly(ϵ -caprolactone). <i>Macromolecules</i> , 2017 , 50, 3355-3364	5.5	8
30	A Novel Facile and Green Synthesis Protocol to Prepare High Strength Regenerated Silk Fibroin/SiO ₂ Composite Fiber. <i>Fibers and Polymers</i> , 2019 , 20, 2222-2226	2	8
29	Programming Performance of Silk Fibroin Superstrong Scaffolds by Mesoscopic Regulation among Hierarchical Structures. <i>Biomacromolecules</i> , 2020 , 21, 4169-4179	6.9	8
28	Fabrication of a uniaxial cellulose nanocrystal thin film for coassembly of single-walled carbon nanotubes. <i>RSC Advances</i> , 2016 , 6, 39396-39400	3.7	8
27	A generic and effective strategy for highly effective intrinsic molecular luminescence in the condensed state. <i>Journal of Materials Chemistry C</i> , 2013 , 1, 5277	7.1	7
26	From Mesoscopic Functionalization of Silk Fibroin to Smart Fiber Devices for Textile Electronics and Photonics. <i>Advanced Science</i> , 2021 , e2103981	13.6	7
25	Rational design of coraloid Co ₉ S ₈ hierarchical architectures for quantum dot-sensitized solar cells. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 11384-11391	7.1	7
24	All-in-one fibrous capacitive humidity sensor for human breath monitoring. <i>Textile Reseach Journal</i> , 2021 , 91, 398-405	1.7	6
23	Needle-Leaf-Like Cu ₂ Mo ₆ S ₈ Films for Highly Efficient Visible-Light Photocatalysis. <i>Particle and Particle Systems Characterization</i> , 2018 , 35, 1700302	3.1	6
22	Ultrathin AuAg Nanofilms from Ice-Templated Assembly of AuAg Nanowires. <i>Advanced Materials Interfaces</i> , 2018 , 5, 1800256	4.6	5
21	Biomimetic Salinity Power Generation Based on Silk Fibroin Ion-Exchange Membranes. <i>ACS Nano</i> , 2021 , 15, 5649-5660	16.7	5
20	Wearable hydration and pH sensor based on protein film for healthcare monitoring. <i>Chemical Papers</i> , 2021 , 75, 4927	1.9	5

19	Crafting NiCo ₂ O ₄ @Co ₉ S ₈ nanotrees on carbon cloth as flexible pressure sensors for effectively monitoring human motion. <i>Applied Nanoscience (Switzerland)</i> , 2020 , 10, 861-867	3.3	5
18	Silk Nanococoons: Bio-Nanoreactors for Enzymatic Catalytic Reactions and Applications to Alcohol Intoxication. <i>Small Science</i> , 2021 , 1, 2000049		5
17	A capacitive humidity sensor based on all-protein embedded with gold nanoparticles @ carbon composite for human respiration detection. <i>Nanotechnology</i> , 2021 , 32, 19LT01	3.4	5
16	Transient bioelectrical devices inspired by a silkworm moth breaking out of its cocoon.. <i>RSC Advances</i> , 2019 , 9, 14254-14259	3.7	4
15	Can the pathway of stepwise nucleation be predicted and controlled?. <i>Physical Chemistry Chemical Physics</i> , 2019 , 21, 7398-7405	3.6	4
14	Controlled Modulation of Surface Coating and Surface Charging on Quantum Dots with Negatively Charged Gelatin for Substantial Enhancement and Reversible Switching in Photoluminescence. <i>Advanced Functional Materials</i> , 2016 , 26, 8991-8998	15.6	4
13	Correlations of crystal shape and lateral orientation in bioinspired CaCO ₃ mineralization. <i>CrystEngComm</i> , 2018 , 20, 5241-5248	3.3	4
12	Hot-Electron-Activated Peroxidase-Mimicking Activity of Ultrathin Pd Nanozymes. <i>Nanoscale Research Letters</i> , 2020 , 15, 162	5	4
11	Synergistic effect of crystalline phase on protein adsorption and cell behaviors on TiO ₂ nanotubes. <i>Applied Nanoscience (Switzerland)</i> , 2020 , 10, 3245-3257	3.3	3
10	Array Integration and Far-Field Detection of Biocompatible Wireless LC Pressure Sensors.. <i>Small Methods</i> , 2021 , 5, e2001055	12.8	3
9	Controlled Colloidal Assembly 2015 , 561-594		2
8	Aluminum ion electrolyte for enhanced electrochromism of polyaniline 2017 ,		2
7	Polyfluorenylacetylene for near-infrared laser protection: polymer synthesis, optical limiting mechanism and relationship between molecular structure and properties. <i>RSC Advances</i> , 2017 , 7, 53785-53796 ¹	3.7	1
6	Enhanced mechanical performance of biocompatible silk fibroin films through mesoscopic construction of hierarchical structures. <i>Textile Research Journal</i> , 2021 , 91, 1146-1154	1.7	1
5	Smart power system of biocompatible and flexible micro-supercapacitor. <i>Applied Physics Letters</i> , 2021 , 118, 073902	3.4	1
4	Polycomponent Electrocatalysts for I-Mediated Dye-Sensitized Solar Cells 2018 , 323-348		1
3	Data analysis between controllable variables and the performance of CuS crackle based electrode. <i>Data in Brief</i> , 2018 , 17, 1331-1335	1.2	1
2	Recent Progress of Applying Mesoscopic Functionalization Engineering Principles to Spin Advanced Regenerated Silk Fibroin Fibers. <i>Advanced Fiber Materials</i> ,1	10.9	0

- 1 Another look at the role of trapped air in cell adhesion on superhydrophobic materials. *Applied Nanoscience (Switzerland)*, **2020**, 10, 243-251

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