

Quan Xu

List of Publications by Year in descending order

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128
papers

7,329
citations

66234

42
h-index

58464

82
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129
all docs

129
docs citations

129
times ranked

10452
citing authors

#	ARTICLE	IF	CITATIONS
1	Preparation of highly photoluminescent sulfur-doped carbon dots for Fe(III) detection. <i>Journal of Materials Chemistry A</i> , 2015, 3, 542-546.	5.2	558
2	N-doped graphene as catalysts for oxygen reduction and oxygen evolution reactions: Theoretical considerations. <i>Journal of Catalysis</i> , 2014, 314, 66-72.	3.1	537
3	Strain and structure heterogeneity in MoS ₂ atomic layers grown by chemical vapour deposition. <i>Nature Communications</i> , 2014, 5, 5246.	5.8	453
4	Heteroatom-doped carbon dots: synthesis, characterization, properties, photoluminescence mechanism and biological applications. <i>Journal of Materials Chemistry B</i> , 2016, 4, 7204-7219.	2.9	396
5	Red-Quantum-Doped SnO ₂ Composite with Enhanced Electron Mobility for Efficient and Stable Perovskite Solar Cells. <i>Advanced Materials</i> , 2020, 32, e1906374.	11.1	230
6	Red/orange dual-emissive carbon dots for pH sensing and cell imaging. <i>Nano Research</i> , 2019, 12, 815-821.	5.8	196
7	Role of lattice defects in catalytic activities of graphene clusters for fuel cells. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 16733-16743.	1.3	181
8	High photoluminescence quantum yield of 18.7% by using nitrogen-doped Ti ₃ C ₂ MXene quantum dots. <i>Journal of Materials Chemistry C</i> , 2018, 6, 6360-6369.	2.7	159
9	Synthesis, mechanistic investigation, and application of photoluminescent sulfur and nitrogen co-doped carbon dots. <i>Journal of Materials Chemistry C</i> , 2015, 3, 9885-9893.	2.7	154
10	Hydrogel smart windows. <i>Journal of Materials Chemistry A</i> , 2020, 8, 10007-10025.	5.2	154
11	Highly fluorescent Zn-doped carbon dots as Fenton reaction-based bio-sensors: an integrative experimental-theoretical consideration. <i>Nanoscale</i> , 2016, 8, 17919-17927.	2.8	141
12	Highly fluorescent Ti ₃ C ₂ MXene quantum dots for macrophage labeling and Cu ²⁺ ion sensing. <i>Nanoscale</i> , 2019, 11, 14123-14133.	2.8	140
13	Recent advances in delivery of photosensitive metal-based drugs. <i>Coordination Chemistry Reviews</i> , 2019, 387, 154-179.	9.5	136
14	Function-driven engineering of 1D carbon nanotubes and 0D carbon dots: mechanism, properties and applications. <i>Nanoscale</i> , 2019, 11, 1475-1504.	2.8	134
15	Controlled fabrication and enhanced visible-light photocatalytic hydrogen production of Au@CdS/MIL-101 heterostructure. <i>Applied Catalysis B: Environmental</i> , 2016, 185, 307-314.	10.8	131
16	Robust self-cleaning and micromanipulation capabilities of gecko spatulae and their bio-mimics. <i>Nature Communications</i> , 2015, 6, 8949.	5.8	124
17	Graphene and graphene oxide: advanced membranes for gas separation and water purification. <i>Inorganic Chemistry Frontiers</i> , 2015, 2, 417-424.	3.0	118
18	Self-Assembling Peptide Nanofibrous Hydrogel as a Versatile Drug Delivery Platform. <i>Current Pharmaceutical Design</i> , 2015, 21, 4342-4354.	0.9	114

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19	Near infrared quantum dots in biomedical applications: current status and future perspective. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2018, 10, e1483.	3.3	113
20	Guiding Principles for Designing Highly Efficient Metal-Free Carbon Catalysts. Advanced Materials, 2019, 31, e1805252.	11.1	110
21	Two-dimensional quantum dots: Fundamentals, photoluminescence mechanism and their energy and environmental applications. Materials Today Energy, 2018, 10, 222-240.	2.5	87
22	Biomimetic self-cleaning surfaces: synthesis, mechanism and applications. Journal of the Royal Society Interface, 2016, 13, 20160300.	1.5	86
23	Hydrochromic full-color MXene quantum dots through hydrogen bonding toward ultrahigh-efficiency white light-emitting diodes. Applied Materials Today, 2019, 16, 90-101.	2.3	86
24	Near-infrared light-driven photofixation of nitrogen over Ti ₃ C ₂ T _x /TiO ₂ hybrid structures with superior activity and stability. Applied Catalysis B: Environmental, 2020, 273, 119072.	10.8	86
25	Nanomechanical Properties of Ti ₃ C ₂ Mxene. Langmuir, 2019, 35, 14481-14485.	1.6	78
26	Facile synthesis of copper doped carbon dots and their application as a "turn-off" fluorescent probe in the detection of Fe ³⁺ ions. RSC Advances, 2016, 6, 28745-28750.	1.7	75
27	Synthesis, mechanical investigation, and application of nitrogen and phosphorus co-doped carbon dots with a high photoluminescent quantum yield. Nano Research, 2018, 11, 3691-3701.	5.8	75
28	Unconventional smart windows: Materials, structures and designs. Nano Energy, 2021, 90, 106613.	8.2	71
29	Machine learning-guided synthesis of advanced inorganic materials. Materials Today, 2020, 41, 72-80.	8.3	70
30	Full color carbon dots through surface engineering for constructing white light-emitting diodes. Journal of Materials Chemistry C, 2019, 7, 2212-2218.	2.7	69
31	Three-dimensional micro/nanoscale architectures: fabrication and applications. Nanoscale, 2015, 7, 10883-10895.	2.8	68
32	A self-healing hydrogel with pressure sensitive photoluminescence for remote force measurement and healing assessment. Materials Horizons, 2019, 6, 703-710.	6.4	66
33	Metal Charge Transfer Doped Carbon Dots with Reversibly Switchable, Ultra-High Quantum Yield Photoluminescence. ACS Applied Nano Materials, 2018, 1, 1886-1893.	2.4	64
34	Enhancing the luminescence of carbon dots by doping nitrogen element and its application in the detection of Fe(III). Journal of Materials Science, 2015, 50, 2571-2576.	1.7	62
35	Characterization of hydrothermal carbonization products (hydrochars and spent liquor) and their biomethane production performance. Bioresource Technology, 2018, 267, 9-16.	4.8	57
36	Highly fluorescent dual-emission red carbon dots and their applications in optoelectronic devices and water detection. New Journal of Chemistry, 2019, 43, 3050-3058.	1.4	57

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37	Quantum dots in cell imaging and their safety issues. <i>Journal of Materials Chemistry B</i> , 2021, 9, 5765-5779.	2.9	57
38	Atomic Plane-Vacancy Engineering of Transition-Metal Dichalcogenides with Enhanced Hydrogen Evolution Capability. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 25264-25270.	4.0	51
39	Two-dimensional quantum dots for biological applications. <i>Nano Research</i> , 2021, 14, 3820-3839.	5.8	50
40	Poly(vinyl alcohol)/Chitosan composites: Physically transient materials for sustainable and transient bioelectronics. <i>Journal of Cleaner Production</i> , 2018, 195, 786-795.	4.6	49
41	Highly green fluorescent Nb ₂ C MXene quantum dots. <i>Chemical Communications</i> , 2020, 56, 6648-6651.	2.2	49
42	Nano friction and adhesion properties on Ti ₃ C ₂ and Nb ₂ C MXene studied by AFM. <i>Tribology International</i> , 2021, 153, 106646.	3.0	48
43	Comparison of toxicity of Ti ₃ C ₂ and Nb ₂ C Mxene quantum dots (QDs) to human umbilical vein endothelial cells. <i>Journal of Applied Toxicology</i> , 2021, 41, 745-754.	1.4	46
44	Ultra-low CNTs filled high-performance fast self-healing triboelectric nanogenerators for wearable electronics. <i>Composites Science and Technology</i> , 2021, 208, 108733.	3.8	45
45	The elasticity of MOFs under mechanical pressure. <i>RSC Advances</i> , 2016, 6, 37506-37514.	1.7	42
46	Recent development in friction of 2D materials: from mechanisms to applications. <i>Nanotechnology</i> , 2021, 32, 312002.	1.3	42
47	Transparent stretchable hydrogel sensors: materials, design and applications. <i>Journal of Materials Chemistry C</i> , 2022, 10, 13351-13371.	2.7	42
48	Facile preparation of high-performance Fe-doped Ce-Mn/TiO ₂ catalysts for the low-temperature selective catalytic reduction of NO _x with NH ₃ . <i>RSC Advances</i> , 2017, 7, 48785-48792.	1.7	40
49	Multicolor carbon nanodots from food waste and their heavy metal ion detection application. <i>RSC Advances</i> , 2018, 8, 23657-23662.	1.7	39
50	Temperature-induced switchable interfacial interactions on slippery surfaces for controllable liquid manipulation. <i>Journal of Materials Chemistry A</i> , 2019, 7, 18510-18518.	5.2	35
51	Metal Coordination-Mediated Functional Grading and Self-Healing in Mussel Byssus Cuticle. <i>Advanced Science</i> , 2019, 6, 1902043.	5.6	35
52	Carbon quantum dots: An innovative additive for water lubrication. <i>Science China Technological Sciences</i> , 2019, 62, 587-596.	2.0	35
53	Barium charge transferred doped carbon dots with ultra-high quantum yield photoluminescence of 99.6% and applications. <i>Chinese Chemical Letters</i> , 2021, 32, 861-865.	4.8	34
54	Mass production of highly fluorescent full color carbon dots from the petroleum coke. <i>Chinese Chemical Letters</i> , 2021, 32, 1532-1536.	4.8	34

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55	2D PtS nanorectangles/g-C ₃ N ₄ nanosheets with a metal sulfideâ€‘support interaction effect for high-efficiency photocatalytic H ₂ evolution. <i>Materials Horizons</i> , 2021, 8, 612-618.	6.4	34
56	Multicolor tunable highly luminescent carbon dots for remote force measurement and white light emitting diodes. <i>Chemical Communications</i> , 2019, 55, 12164-12167.	2.2	33
57	Enhanced Adhesion of Carbon Nanotubes by Dopamine Modification. <i>Langmuir</i> , 2019, 35, 4527-4533.	1.6	32
58	Dualâ€‘Metal Sites Boosting Polarization of Nitrogen Molecules for Efficient Nitrogen Photofixation. <i>Advanced Science</i> , 2021, 8, 2100302.	5.6	32
59	Energy Saving and Energy Generation Smart Window with Active Control and Antifreezing Functions. <i>Advanced Science</i> , 2022, 9, e2105184.	5.6	32
60	Wettability of nanotextured metallic glass surfaces. <i>Scripta Materialia</i> , 2013, 69, 732-735.	2.6	31
61	Electrodeposited hydroxyapatite coatings on the TiO ₂ nanotube in static magnetic field. <i>Applied Surface Science</i> , 2013, 287, 218-222.	3.1	31
62	Dynamic Adhesion Forces between Microparticles and Substrates in Water. <i>Langmuir</i> , 2014, 30, 11103-11109.	1.6	31
63	Photoelectrochemical performance of CdS nanorods grafted vertically aligned TiO ₂ nanorods. <i>Materials Research Bulletin</i> , 2013, 48, 4548-4554.	2.7	29
64	Dynamic Enhancement in Adhesion Forces of Microparticles on Substrates. <i>Langmuir</i> , 2013, 29, 13743-13749.	1.6	28
65	Photoluminescence mechanism and applications of Zn-doped carbon dots. <i>RSC Advances</i> , 2018, 8, 17254-17262.	1.7	28
66	Nanoscale TiO ₂ nanotubes govern the biological behavior of human glioma and osteosarcoma cells. <i>International Journal of Nanomedicine</i> , 2015, 10, 2423.	3.3	26
67	High-solid anaerobic digestion of corn straw for methane production and pretreatment of bio-briquette. <i>Bioresource Technology</i> , 2018, 250, 741-749.	4.8	26
68	Surface Properties of Organic Kerogen in Continental and Marine Shale. <i>Langmuir</i> , 2018, 34, 13882-13887.	1.6	26
69	Pyrite nanotube array films as an efficient photocatalyst for degradation of methylene blue and phenol. <i>RSC Advances</i> , 2015, 5, 62724-62731.	1.7	25
70	Changes in microbial community and methanogenesis during high-solid anaerobic digestion of ensiled corn stover. <i>Journal of Cleaner Production</i> , 2020, 242, 118479.	4.6	25
71	Surface wettability effect on aqueous lubrication: Van der Waals and hydration force competition induced adhesive friction. <i>Journal of Colloid and Interface Science</i> , 2021, 599, 667-675.	5.0	25
72	Highly fluorescence Ta ₄ C ₃ MXene quantum dots as fluorescent nanoprobe for heavy ion detection and stress monitoring of fluorescent hydrogels. <i>Chinese Chemical Letters</i> , 2022, 33, 1850-1854.	4.8	23

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73	Multi-color carbon dots for white light-emitting diodes. RSC Advances, 2019, 9, 9700-9708.	1.7	22
74	Promoting potential direct interspecies electron transfer (DIET) and methanogenesis with nitrogen and zinc doped carbon quantum dots. Journal of Hazardous Materials, 2021, 410, 124886.	6.5	22
75	Synthesis of FeS ₂ (pyrite) nanotube through sulfuration of Fe ₂ O ₃ nanotube. Materials Letters, 2015, 141, 104-106.	1.3	21
76	Ratiometric fluorescent sensing of copper ion based on chromaticity change strategy. Analytical and Bioanalytical Chemistry, 2017, 409, 6655-6662.	1.9	21
77	Tough Reversible Adhesion Properties of a Dry Self-Cleaning Biomimetic Surface. ACS Applied Materials & Interfaces, 2018, 10, 26787-26794.	4.0	21
78	Effects of temperature, hydrogen/carbon monoxide ratio and trace element addition on methane production performance from syngas biomethanation. Bioresource Technology, 2020, 295, 122296.	4.8	21
79	Novel visible-light-driven S-doped carbon dots/BiOI nanocomposites: improved photocatalytic activity and mechanism insight. Journal of Materials Science, 2017, 52, 7282-7293.	1.7	20
80	Progress in Bioinspired Dry and Wet Gradient Materials from Design Principles to Engineering Applications. IScience, 2020, 23, 101749.	1.9	20
81	Antibacterial activities of TiO ₂ nanotubes on Porphyromonas gingivalis. RSC Advances, 2015, 5, 34237-34242.	1.7	19
82	Pyrolysis gas as a carbon source for biogas production via anaerobic digestion. RSC Advances, 2017, 7, 41889-41895.	1.7	19
83	Synthesis of multi-functional green fluorescence carbon dots and their applications as a fluorescent probe for Hg ²⁺ detection and zebrafish imaging. New Journal of Chemistry, 2018, 42, 10400-10405.	1.4	18
84	Functionally Graded Gecko Setae and the Biomimics with Robust Adhesion and Durability. ACS Applied Polymer Materials, 2020, 2, 2658-2666.	2.0	18
85	Metathesis and isomerization of n-butene and ethylene over WO ₃ /SiO ₂ and MgO catalysts: Thermodynamic and experimental analysis. Applied Catalysis A: General, 2016, 517, 227-235.	2.2	17
86	Bioinspired Photodetachable Dry Self-Cleaning Surface. Langmuir, 2019, 35, 6379-6386.	1.6	17
87	Performance and Microbial Community Analysis of Anaerobic Digestion of Vinegar Residue with Adding of Acetylene Black or Hydrochar. Waste and Biomass Valorization, 2020, 11, 3315-3325.	1.8	17
88	Performance of hydroxyapatite coatings electrodeposited on micro-arc oxidized magnesium alloys using a static magnetic field. RSC Advances, 2015, 5, 14458-14464.	1.7	16
89	Mechanism of byproducts formation in the isobutane/butene alkylation on HY zeolites. RSC Advances, 2018, 8, 3392-3398.	1.7	16
90	Effects of single-stage syngas hydrotreating on the physical and chemical properties of oxidized fractionated bio-oil. Fuel, 2017, 209, 634-642.	3.4	15

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91	Near-infrared emission Cu, N-doped carbon dots for human umbilical vein endothelial cell labeling and their biocompatibility in vitro. <i>Journal of Applied Toxicology</i> , 2021, 41, 789-798.	1.4	15
92	Gecko inspired reversible adhesion via quantum dots enabled photo-detachment. <i>Chemical Engineering Journal</i> , 2022, 431, 134081.	6.6	15
93	Synergistic effect of combined hydrothermal carbonization of Fenton's reagent and biomass enhances the adsorption and combustion characteristics of sludge towards eco-friendly and efficient sludge treatment. <i>Science of the Total Environment</i> , 2022, 825, 153854.	3.9	15
94	Gecko-inspired composite micro-pillars with both robust adhesion and enhanced dry self-cleaning property. <i>Chinese Chemical Letters</i> , 2019, 30, 2333-2337.	4.8	13
95	Effect of dilute acid treatment on adhesion properties of Longmaxi black shale. <i>Petroleum Science</i> , 2019, 16, 1320-1331.	2.4	12
96	Sulfur resistance of Ce-Mn/TiO ₂ catalysts for low-temperature NH ₃ SCR. <i>Royal Society Open Science</i> , 2018, 5, 171846.	1.1	11
97	Hydrophobic epoxy resin coated proppants with ultra-high self-suspension ability and enhanced liquid conductivity. <i>Petroleum Science</i> , 2021, 18, 1753-1759.	2.4	11
98	Enhancement of the Wettability and Lubrication of Shale Rock via Nanoemulsions. <i>International Journal of Polymer Science</i> , 2017, 2017, 1-6.	1.2	10
99	Synthesis of Highly Fluorescent Yellow-Green N-Doped Carbon Nanorings for pH Variation Detection and Bioimaging. <i>Particle and Particle Systems Characterization</i> , 2018, 35, 1800276.	1.2	10
100	Biological Self-Assembly and Recognition Used to Synthesize and Surface Guide Next Generation of Hybrid Materials. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 28372-28381.	4.0	10
101	Near infrared molybdenum oxide quantum dots with high photoluminescence and photothermal performance. <i>Chinese Chemical Letters</i> , 2020, 31, 1616-1619.	4.8	10
102	Fabrication of TiO ₂ -graphene composite for the enhanced performance of lithium batteries. <i>RSC Advances</i> , 2016, 6, 66971-66977.	1.7	9
103	Nanoscale mechanical property of marine and continental organic kerogen in shale. <i>Chinese Chemical Letters</i> , 2020, 31, 509-512.	4.8	9
104	Measurement of Interfacial Energy and Friction Between Carbon Nanotubes and Polymer Matrix by a Micro-Pullout Test. <i>Science of Advanced Materials</i> , 2012, 4, 888-892.	0.1	9
105	Dynamic enhancement in adhesion forces of truncated and nanosphere tips on substrates. <i>RSC Advances</i> , 2015, 5, 91633-91639.	1.7	8
106	Temperature-induced tunable adhesion of gecko setae/spatulae and their biomimics. <i>Materials Today: Proceedings</i> , 2018, 5, 25879-25893.	0.9	8
107	Characteristics of micro-fracturing in shales induced by dilute acid. <i>Journal of Natural Gas Science and Engineering</i> , 2021, 88, 103855.	2.1	8
108	Efficient cocktail chemotherapy by co-delivery of a hydrogen sulfide-releasing aspirin prodrug and paclitaxel via single nanoparticles. <i>RSC Advances</i> , 2017, 7, 13458-13466.	1.7	7

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109	Robust and conductive hydrogel based on mussel adhesive chemistry for remote monitoring of body signals. <i>Friction</i> , 2020, , 1.	3.4	7
110	Reversible adhesion surface coating proppant. <i>Chinese Chemical Letters</i> , 2021, 32, 553-556.	4.8	7
111	Coated proppants with self-suspension and tracer slow-release functions. <i>Journal of Petroleum Science and Engineering</i> , 2022, 208, 109645.	2.1	7
112	Protein self-assembly onto nanodots leads to formation of conductive bio-based hybrids. <i>Scientific Reports</i> , 2016, 6, 38252.	1.6	6
113	Efficient application of carbon-based nanomaterials for high-performance perovskite solar cells. <i>Rare Metals</i> , 2021, 40, 2747-2762.	3.6	6
114	Photo-Detachable Self-Cleaning Surfaces Inspired by Gecko Toepads. <i>Langmuir</i> , 2021, 37, 8410-8416.	1.6	6
115	Formation and Regeneration of Shape-Selective ZSM-35 Catalysts for n-Butene Skeletal Isomerization to Isobutene. <i>ACS Omega</i> , 2018, 3, 8202-8211.	1.6	5
116	Biomimicry Surface-Coated Proppant with Self-Suspending and Targeted Adsorption Ability. <i>ACS Omega</i> , 2020, 5, 25824-25831.	1.6	5
117	Yellow emission N-doped fluorescent carbon dots as fluorescent nanoprobe for the detection of L-threonine in real samples. <i>New Journal of Chemistry</i> , 2021, 45, 10798-10801.	1.4	5
118	Effects of Molecular Weight Reduction on Brittleâ€“Ductile Transition and Elastic Yielding Due to Noninvasive ^{13}C Irradiation on Polymer Glasses. <i>Macromolecules</i> , 2017, 50, 2447-2455.	2.2	4
119	Strain-controlled optical transmittance tuning of three-dimensional carbon nanotube architectures. <i>Journal of Materials Chemistry C</i> , 2019, 7, 1927-1933.	2.7	3
120	Interfacial Energy and Friction between Carbon Nanotubes and Polymer Matrix. <i>Mechanics of Advanced Materials and Structures</i> , 2014, 21, 393-401.	1.5	2
121	Bionic PDMS-CDs surface with thermal controllable adhesion. <i>Materials Letters</i> , 2020, 263, 127267.	1.3	2
122	Deep Understanding of the Methanogenic Community and Their Interaction in Batch High-Solid Anaerobic Digestion of Ensiled Straw with Leachate Circulation. <i>Energy & Fuels</i> , 2020, 34, 10980-10988.	2.5	2
123	Measurement of Interfacial Energy and Friction Between Carbon Nanotubes and Polymer Matrix via Atomic Force Microscopy. <i>Journal of Nanoscience and Nanotechnology</i> , 2016, 16, 6889-6894.	0.9	1
124	Reaction and Characterization of Low-Temperature Effect of Transition Nanostructure Metal Codoped SCR Catalyst. <i>Journal of Nanomaterials</i> , 2017, 2017, 1-10.	1.5	1
125	Mussel Byssus Cuticle: Metal Coordinationâ€“Mediated Functional Grading and Selfâ€“Healing in Mussel Byssus Cuticle (<i>Adv. Sci.</i> 23(2019)). <i>Advanced Science</i> , 2019, 6, 1970138.	5.6	1
126	Smart Adhesion Surfaces. , 2019, , 261-283.		1

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127	Syntheses, mechanisms, and applications of bio-inspired self-cleaning surfaces. , 2022, , 367-392.		1
128	Shaly detritus embedded epoxy-resin coated proppants. Petroleum Science, 2022, 19, 1735-1744.	2.4	1