

Bin Wang

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121
papers

5,795
citations

37
h-index

74
g-index

133
ext. papers

6,690
ext. citations

8
avg, IF

6.04
L-index

#	Paper	IF	Citations
121	Bandgap engineering of strained monolayer and bilayer MoS ₂ . <i>Nano Letters</i> , 2013 , 13, 3626-30	11.5	1516
120	Probing excitonic states in suspended two-dimensional semiconductors by photocurrent spectroscopy. <i>Scientific Reports</i> , 2014 , 4, 6608	4.9	285
119	Chemical origin of a graphene moiré overlayer on Ru(0001). <i>Physical Chemistry Chemical Physics</i> , 2008 , 10, 3530-4	3.6	220
118	Comparison of electronic structure and template function of single-layer graphene and a hexagonal boron nitride nanomesh on Ru(0001). <i>Physical Review B</i> , 2009 , 79,	3.3	171
117	Role of defects in the phase transition of VO ₂ nanoparticles probed by plasmon resonance spectroscopy. <i>Nano Letters</i> , 2012 , 12, 780-6	11.5	165
116	Structure determination of the coincidence phase of graphene on Ru(0001). <i>Physical Review Letters</i> , 2010 , 104, 136102	7.4	164
115	Scalable synthesis of uniform few-layer hexagonal boron nitride dielectric films. <i>Nano Letters</i> , 2013 , 13, 276-81	11.5	149
114	Ultrafast phase transition via catastrophic phonon collapse driven by plasmonic hot-electron injection. <i>Nano Letters</i> , 2014 , 14, 1127-33	11.5	106
113	Probing charge scattering mechanisms in suspended graphene by varying its dielectric environment. <i>Nature Communications</i> , 2012 , 3, 734	17.4	103
112	Periodicity, work function and reactivity of graphene on Ru(0001) from first principles. <i>New Journal of Physics</i> , 2010 , 12, 043041	2.9	95
111	C-C Coupling on Single-Atom-Based Heterogeneous Catalyst. <i>Journal of the American Chemical Society</i> , 2018 , 140, 954-962	16.4	94
110	Graphene Oxide-Template Controlled Cuboid-Shaped High-Capacity VS ₄ Nanoparticles as Anode for Sodium-Ion Batteries. <i>Advanced Functional Materials</i> , 2018 , 28, 1801806	15.6	94
109	Solvent-mediated charge separation drives alternative hydrogenation path of furanics in liquid water. <i>Nature Catalysis</i> , 2019 , 2, 431-436	36.5	93
108	Water-Mediated Heterogeneously Catalyzed Reactions. <i>ACS Catalysis</i> , 2020 , 10, 1294-1309	13.1	90
107	Formation of Large Polysulfide Complexes during the Lithium-Sulfur Battery Discharge. <i>Physical Review Applied</i> , 2014 , 2,	4.3	89
106	Enhanced NH ₃ -sensing behavior of 2,9,16,23-tetrakis(2,2,3,3-tetrafluoropropoxy) metal(II) phthalocyanine/multi-walled carbon nanotube hybrids: An investigation of the effects of central metals. <i>Carbon</i> , 2014 , 80, 268-278	10.4	75
105	Zeolite-catalysed C-C bond forming reactions for biomass conversion to fuels and chemicals. <i>Catalysis Science and Technology</i> , 2016 , 6, 2543-2559	5.5	71

104	Strain enhanced defect reactivity at grain boundaries in polycrystalline graphene. <i>Carbon</i> , 2011 , 49, 3983-3988	3.2	69
103	Arrays of Ru nanoclusters with narrow size distribution templated by monolayer graphene on Ru. <i>Surface Science</i> , 2011 , 605, 1676-1684	1.8	65
102	Single terrace growth of graphene on a metal surface. <i>Nano Letters</i> , 2011 , 11, 1895-900	11.5	63
101	Gas transport in porous electrodes of solid oxide fuel cells: A review on diffusion and diffusivity measurement. <i>Journal of Power Sources</i> , 2013 , 237, 64-73	8.9	62
100	Controllable healing of defects and nitrogen doping of graphene by CO and NO molecules. <i>Physical Review B</i> , 2011 , 83,	3.3	62
99	Controlling Reaction Selectivity over Hybrid Plasmonic Nanocatalysts. <i>Nano Letters</i> , 2018 , 18, 7289-7297	11.5	57
98	Defects and doping and their role in functionalizing graphene. <i>MRS Bulletin</i> , 2012 , 37, 1187-1194	3.2	56
97	Monolayer Graphene and h-BN on Metal Substrates as Versatile Templates for Metallic Nanoclusters. <i>Journal of Physical Chemistry Letters</i> , 2011 , 2, 2341-2345	6.4	55
96	Simulation of high-energy ion collisions with graphene fragments. <i>Physical Review B</i> , 2012 , 85,	3.3	51
95	Tuning the spin state of iron phthalocyanine by ligand adsorption. <i>Journal of Physics Condensed Matter</i> , 2010 , 22, 472002	1.8	51
94	. <i>IEEE Transactions on Nuclear Science</i> , 2011 , 58, 2961-2967	1.7	49
93	Gel based sulfur cathodes with a high sulfur content and large mass loading for high-performance lithium-sulfur batteries. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 1650-1657	13	48
92	Graphene on Ru(0001): contact formation and chemical reactivity on the atomic scale. <i>Physical Review Letters</i> , 2010 , 105, 236101	7.4	46
91	Substitutional doping of graphene: The role of carbon divacancies. <i>Physical Review B</i> , 2014 , 89,	3.3	45
90	Confining Sulfur Species in Cathodes of Lithium-Sulfur Batteries: Insight into Nonpolar and Polar Matrix Surfaces. <i>ACS Energy Letters</i> , 2016 , 1, 481-489	20.1	44
89	Enhanced Electrochemical and Thermal Transport Properties of Graphene/MoS Heterostructures for Energy Storage: Insights from Multiscale Modeling. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 14614-14621	9.5	43
88	Magnetic moment of a single vacancy in graphene and semiconducting nanoribbons. <i>Physical Review B</i> , 2012 , 86,	3.3	43
87	Comparison of the Carbonyl and Nitrosyl Complexes Formed by Adsorption of CO and NO on Monolayers of Iron Phthalocyanine on Au(111). <i>Journal of Physical Chemistry C</i> , 2011 , 115, 24718-24727	3.8	39

86	Direct quantitative identification of the "surface -effect". <i>Chemical Science</i> , 2016 , 7, 5647-5656	9.4	37
85	Relationship between Atomic Scale Structure and Reactivity of Pt Catalysts: Hydrodeoxygenation of m-Cresol over Isolated Pt Cations and Clusters. <i>ACS Catalysis</i> , 2020 , 10, 595-603	13.1	37
84	Structure and Catalytic Characterization of a Second Framework Al(IV) Site in Zeolite Catalysts Revealed by NMR at 35.2 T. <i>Journal of the American Chemical Society</i> , 2020 , 142, 7514-7523	16.4	36
83	Ozone-exposure and annealing effects on graphene-on-SiO ₂ transistors. <i>Applied Physics Letters</i> , 2012 , 101, 121601	3.4	36
82	Reaction of Phthalocyanines with Graphene on Ir(111). <i>Journal of the American Chemical Society</i> , 2015 , 137, 9452-8	16.4	35
81	Ammonia adsorption on iron phthalocyanine on Au(111): influence on adsorbate-substrate coupling and molecular spin. <i>Journal of Chemical Physics</i> , 2011 , 134, 114710	3.9	35
80	Direct carbon-carbon coupling of furanics with acetic acid over Brüsted zeolites. <i>Science Advances</i> , 2016 , 2, e1601072	14.3	34
79	An analytical expression for the van der Waals interaction in oriented-attachment growth: a spherical nanoparticle and a growing cylindrical nanorod. <i>Physical Chemistry Chemical Physics</i> , 2012 , 14, 4548-53	3.6	34
78	Introduction of nitrogen with controllable configuration into graphene via vacancies and edges. <i>Journal of Materials Chemistry A</i> , 2013 , 1, 14927	13	32
77	Photoresponse of Natural van der Waals Heterostructures. <i>ACS Nano</i> , 2017 , 11, 6024-6030	16.7	31
76	Hydrogen dynamics and metallic phase stabilization in VO ₂ . <i>Applied Physics Letters</i> , 2014 , 104, 101913	3.4	30
75	A Multisensor Device for Highly Efficient Diffusivity Measurements and Overall-Concentration-Polarization Evaluation in Fuel Cells. <i>Advanced Energy Materials</i> , 2012 , 2, 329-333	21.8	29
74	Pyridine Adsorption on Single-Layer Iron Phthalocyanine on Au(111). <i>Journal of Physical Chemistry C</i> , 2011 , 115, 20201-20208	3.8	27
73	Overall concentration polarization and limiting current density of fuel cells with nanostructured electrodes. <i>Nano Energy</i> , 2012 , 1, 828-832	17.1	26
72	Electron spectroscopy study of the initial stages of iron phthalocyanine growth on highly oriented pyrolytic graphite. <i>Journal of Chemical Physics</i> , 2009 , 131, 214709	3.9	26
71	Suppression of phonon-mediated hot carrier relaxation in type-II InAs/AlAs _x Sb _{1-x} quantum wells: a practical route to hot carrier solar cells. <i>Progress in Photovoltaics: Research and Applications</i> , 2016 , 24, 591-599	6.8	26
70	Aldol Condensation of Cyclopentanone on Hydrophobized MgO. Promotional Role of Water and Changes in the Rate-Limiting Step upon Organosilane Functionalization. <i>ACS Catalysis</i> , 2019 , 9, 2831-2841	13.1	26
69	Understanding the Different Diffusion Mechanisms of Hydrated Protons and Potassium Ions in Titanium Carbide MXene. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 7087-7095	9.5	25

68	Role of water in cyclopentanone self-condensation reaction catalyzed by MCM-41 functionalized with sulfonic acid groups. <i>Journal of Catalysis</i> , 2019 , 377, 245-254	7.3	24
67	Total Ionizing Dose Effects on hBN Encapsulated Graphene Devices. <i>IEEE Transactions on Nuclear Science</i> , 2014 , 61, 2868-2873	1.7	24
66	Comment on "Periodically rippled graphene: growth and spatially resolved electronic structure". <i>Physical Review Letters</i> , 2008 , 101, 099703; author reply 099704	7.4	24
65	Physical justification for ionic conductivity enhancement at strained coherent interfaces. <i>Journal of Power Sources</i> , 2015 , 285, 37-42	8.9	22
64	Enhanced hot electron lifetimes in quantum wells with inhibited phonon coupling. <i>Scientific Reports</i> , 2018 , 8, 12473	4.9	21
63	Brønsted Brønsted Synergies between Framework and Noncrystalline Protons in Zeolite H-ZSM-5. <i>ACS Catalysis</i> , 2019 , 9, 6124-6136	13.1	20
62	Enhanced chemical reactions of oxygen at grain boundaries in polycrystalline graphene. <i>Polyhedron</i> , 2013 , 64, 158-162	2.7	20
61	Layer-Dependent Interfacial Transport and Optoelectrical Properties of MoS ₂ on Ultraflat Metals. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 31543-31550	9.5	19
60	Electrical Stress and Total Ionizing Dose Effects on MoS_2 Transistors. <i>IEEE Transactions on Nuclear Science</i> , 2014 , 61, 2862-2867	1.7	19
59	Enhancing the Acylation Activity of Acetic Acid by Formation of an Intermediate Aromatic Ester. <i>ChemSusChem</i> , 2017 , 10, 2823-2832	8.3	18
58	Enhanced chemical activity and wettability at adjacent Brønsted acid sites in HZSM-5. <i>Catalysis Today</i> , 2018 , 312, 44-50	5.3	18
57	Reaction Pathway Dependence in Plasmonic Catalysis: Hydrogenation as a Model Molecular Transformation. <i>Chemistry - A European Journal</i> , 2018 , 24, 12330-12339	4.8	18
56	Room-temperature reactions for self-cleaning molecular nanosensors. <i>Nano Letters</i> , 2013 , 13, 798-802	11.5	18
55	Interfacial coupling in rotational monolayer and bilayer graphene on Ru(0001) from first principles. <i>Nanoscale</i> , 2012 , 4, 4687-93	7.7	18
54	Homogeneous versus heterogeneous catalysis in Cu ₂ O-nanoparticle-catalyzed C-C coupling reactions. <i>Green Chemistry</i> , 2019 , 21, 5284-5290	10	16
53	Metal-organic interaction probed by First Principles STM simulations. <i>Progress in Surface Science</i> , 2010 , 85, 435-459	6.6	16
52	Visualization of Defect-Induced Excitonic Properties of the Edges and Grain Boundaries in Synthesized Monolayer Molybdenum Disulfide. <i>Journal of Physical Chemistry C</i> , 2016 , 120, 24080-24087	3.8	16
51	Water Promotion (or Inhibition) of Condensation Reactions Depends on Exposed Cerium Oxide Catalyst Facets. <i>ACS Catalysis</i> , 2020 , 10, 5373-5382	13.1	15

50	Design-controlled synthesis of IrO sub-monolayers on Au nanoflowers: marrying plasmonic and electrocatalytic properties. <i>Nanoscale</i> , 2020 , 12, 12281-12291	7.7	14
49	Efficient catalytic dehydration of methyl lactate to acrylic acid using sulphate and phosphate modified MCM-41 catalysts. <i>Applied Catalysis A: General</i> , 2014 , 487, 219-225	5.1	14
48	Doubling the diffusivity measurement efficiency in solid oxide fuel cells (SOFCs) via a bi-sensor electrochemical cell. <i>Journal of Power Sources</i> , 2011 , 196, 9985-9988	8.9	14
47	High-Temperature Grafting Silylation for Minimizing Leaching of Acid Functionality from Hydrophobic Mesoporous Silicas Used as Catalysts in the Liquid Phase. <i>Langmuir</i> , 2019 , 35, 6838-6852	4	13
46	Stabilization of furanics to cyclic ketone building blocks in the vapor phase. <i>Applied Catalysis B: Environmental</i> , 2019 , 254, 491-499	21.8	13
45	Growth of Solid and Hollow Gold Particles through the Thermal Annealing of Nanoscale Patterned Thin Films. <i>ACS Applied Materials & Interfaces</i> , 2013 , 5, 11590-6	9.5	13
44	Adsorption of ammonia on multilayer iron phthalocyanine. <i>Journal of Chemical Physics</i> , 2011 , 134, 114713	3.9	13
43	First-Principles Study on the Structure, Electronic, and Optical Properties of Cs ₂ AgBiBr ₆ -xCl _x Mixed-Halide Double Perovskites. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 5371-5377	3.8	12
42	Surface Reactions and Defect Formation in Irradiated Graphene Devices. <i>IEEE Transactions on Nuclear Science</i> , 2012 , 59, 3039-3044	1.7	11
41	Ionization-enhanced decomposition of 2,4,6-trinitrotoluene (TNT) molecules. <i>Journal of Physical Chemistry A</i> , 2011 , 115, 8142-6	2.8	11
40	Templating of arrays of Ru nanoclusters by monolayer graphene/Ru Moiré with different periodicities. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 314201	1.8	11
39	Hydrodeoxygenation of anisole over different Rh surfaces. <i>Chinese Journal of Catalysis</i> , 2019 , 40, 1721-1730	3.0	10
38	A current-sensor electrochemical device for accurate gas diffusivity measurement in fuel cells. <i>Journal of Power Sources</i> , 2013 , 232, 93-98	8.9	9
37	The effect and nature of NH ₃ complexes in the control of the dominant photoluminescence transitions in UV-hydrogenated GaInNAs. <i>RSC Advances</i> , 2017 , 7, 25353-25361	3.7	9
36	Transition metal-like carbocatalyst. <i>Nature Communications</i> , 2020 , 11, 4091	17.4	9
35	A comparative study of thermal- and electrocatalytic conversion of furfural: methylfuran as a primary and major product. <i>Journal of Applied Electrochemistry</i> , 2021 , 51, 19-26	2.6	9
34	Reaction Mechanism for the Conversion of γ -Valerolactone (GVL) over a Ru Catalyst: A First-Principles Study. <i>Industrial & Engineering Chemistry Research</i> , 2017 , 56, 3217-3222	3.9	8
33	Ab initio calculations of ionic hydrocarbon compounds with heptacoordinate carbon. <i>Journal of Molecular Modeling</i> , 2018 , 24, 116	2	8

32	The Effect of Cofed Species on the Kinetics of Catalytic Methyl Lactate Dehydration on NaY. <i>ACS Catalysis</i> , 2018 , 8, 9066-9078	13.1	7
31	Enhanced photoresponse in curled graphene ribbons. <i>Nanoscale</i> , 2013 , 5, 12206-11	7.7	7
30	Structure, electronic and optical properties of CsPbX ₃ halide perovskite: A first-principles study. <i>Journal of Alloys and Compounds</i> , 2021 , 862, 158442	5.7	7
29	Rational Surface Modification of Two-Dimensional Layered Black Phosphorus: Insights from First-Principles Calculations. <i>ACS Omega</i> , 2018 , 3, 2445-2451	3.9	6
28	Factors Determining Selectivity of Acid- and Base-Catalyzed Self- and Cross-Condensation of Acetone and Cyclopentanone. <i>ACS Catalysis</i> , 2020 , 10, 12790-12800	13.1	6
27	Strain engineering of two-dimensional materials for advanced electrocatalysts. <i>Materials Today Nano</i> , 2021 , 14, 100111	9.7	6
26	Thermal Unequilibrium of PdSn Intermetallic Nanocatalysts: From In Situ Tailored Synthesis to Unexpected Hydrogenation Selectivity. <i>Angewandte Chemie - International Edition</i> , 2021 , 60, 18309-18317	16.4	6
25	Photoinduced Electron and Energy Transfer Pathways and Photocatalytic Mechanisms in Hybrid Plasmonic Photocatalysis. <i>Advanced Optical Materials</i> , 2101128	8.1	6
24	Solvent effects on catalytic reactions and related phenomena at liquid-solid interfaces. <i>Surface Science Reports</i> , 2021 , 76, 100541	12.9	6
23	Oxide-catalyzed self- and cross-condensation of cycloketones. Kinetically relevant steps that determine product distribution. <i>Journal of Catalysis</i> , 2020 , 391, 163-174	7.3	5
22	Role of In in Hydrogenation of N-Related Complexes in GalnNAs. <i>ACS Applied Electronic Materials</i> , 2019 , 1, 461-466	4	4
21	Analysis and visualization of energy densities. II. Insights from linear-response time-dependent density functional theory calculations. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 26852-26864	3.6	4
20	Doping-driven electronic and lattice dynamics in the phase-change material vanadium dioxide. <i>Physical Review B</i> , 2020 , 102,	3.3	4
19	Plasmon-Induced CO ₂ Conversion on Al@Cu ₂ O: A DFT Study. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 6108-6115	3.8	4
18	Interaction of water with zeolites: a review. <i>Catalysis Reviews - Science and Engineering</i> , 2021 , 63, 302-362	2.6	4
17	Quantifying the Influence of Water on the Mobility of Aluminum Species and Their Effects on Alkane Cracking in Zeolites. <i>ACS Catalysis</i> , 2021 , 11, 6982-6994	13.1	4
16	Predictors of unfavorable outcome in neurosyphilis: Multicenter ID-IRI Study. <i>European Journal of Clinical Microbiology and Infectious Diseases</i> , 2019 , 38, 125-134	5.3	4
15	Optimizing the surface distribution of acid sites for cooperative catalysis in condensation reactions promoted by water. <i>Chem Catalysis</i> , 2021 , 1, 1065-1065		4

14	First-Formed Framework Species and Phosphate Structure Distributions in Phosphorus-Modified MFI Zeolites. <i>Journal of Physical Chemistry C</i> , 2022 , 126, 227-238	3.8	3
13	Nondestructive functionalization of monolayer black phosphorus using Lewis acids: A first-principles study. <i>Applied Surface Science</i> , 2020 , 518, 146210	6.7	3
12	Analysis and visualization of energy densities. I. Insights from real-time time-dependent density functional theory simulations. <i>Physical Chemistry Chemical Physics</i> , 2020 , 22, 26838-26851	3.6	3
11	First-Principles Study on the Structure, Electronic and Optical Properties of Cs ₂ AgSb _x Bi _{1-x} Cl ₆ Double Perovskites. <i>Journal of Physical Chemistry C</i> , 2021 , 125, 11271-11277	3.8	3
10	Thermal Unequilibrium of PdSn Intermetallic Nanocatalysts: From In Situ Tailored Synthesis to Unexpected Hydrogenation Selectivity. <i>Angewandte Chemie</i> , 2021 , 133, 18457-18465	3.6	3
9	Interfacial engineering of phthalocyanine molecules on graphitic and metal substrates. <i>Molecular Simulation</i> , 2017 , 43, 384-393	2	2
8	Experimental and computational kinetics study of the liquid-phase hydrogenation of CC and CO bonds. <i>Journal of Catalysis</i> , 2021 , 404, 771-771	7.3	2
7	General Synthetic Strategy to Ordered Mesoporous Carbon Catalysts with Single-Atom Metal Sites for Electrochemical CO Reduction.. <i>Small</i> , 2022 , e2107799	11	2
6	Voltage-dependent conductance states of a single-molecule junction. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 394012	1.8	1
5	Physical and Chemical Properties of Phosphorus. <i>ACS Symposium Series</i> , 2019 , 61-77	0.4	1
4	First-principles calculations of the structural, electronic and optical properties of Cs ₂ Ag _x Na _{1-x} InBr ₆ double perovskites. <i>Chemical Physics</i> , 2022 , 559, 111520	2.3	1
3	Significant Role of Oxygen Dopants in Photocatalytic PFCA Degradation over h-BN. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 46727-46737	9.5	0
2	Correction: Analysis and visualization of energy densities. I. Insights from real-time time-dependent density functional theory simulations. <i>Physical Chemistry Chemical Physics</i> , 2021 , 23, 8936	3.6	0
1	Selective Reduction of Carboxylic Acids to Aldehydes with Promoted MoO ₃ Catalysts. <i>ACS Catalysis</i> , 2021 , 11, 6324-6331	11.5	0