Bin Wang

List of Publications by Year in Descending Order

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	First-Formed Framework Species and Phosphate Structure Distributions in Phosphorus-Modified MFI Zeolites. *Journal of Physical Chemistry C*, **2022**, 126, 227-238	3.8	3
120	General Synthetic Strategy to Ordered Mesoporous Carbon Catalysts with Single-Atom Metal Sites for Electrochemical CO Reduction.. *Small*, **2022**, e2107799	11	2
119	First-principles calculations of the structural, electronic and optical properties of Cs2AgxNa1-xInBr6 double perovskites. *Chemical Physics*, **2022**, 559, 111520	2.3	1
118	Plasmon-Induced CO2 Conversion on Al@Cu2O: A DFT Study. *Journal of Physical Chemistry C*, **2021**, 125, 6108-6115	3.8	4
117	Interaction of water with zeolites: a review. *Catalysis Reviews - Science and Engineering*, **2021**, 63, 302-362	12.6	4
116	First-Principles Study on the Structure, Electronic and Optical Properties of Cs2AgSbxBi1⊠Cl6 Double Perovskites. *Journal of Physical Chemistry C*, **2021**, 125, 11271-11277	3.8	3
115	Structure, electronic and optical properties of CsPbX3 halide perovskite: A first-principles study. *Journal of Alloys and Compounds*, **2021**, 862, 158442	5.7	7
114	Strain engineering of two-dimensional materials for advanced electrocatalysts. *Materials Today Nano*, **2021**, 14, 100111	9.7	6
113	Quantifying the Influence of Water on the Mobility of Aluminum Species and Their Effects on Alkane Cracking in Zeolites. *ACS Catalysis*, **2021**, 11, 6982-6994	13.1	4
112	A comparative study of thermal- and electrocatalytic conversion of furfural: methylfuran as a primary and major product. *Journal of Applied Electrochemistry*, **2021**, 51, 19-26	2.6	9
111	Thermal Unequilibrium of PdSn Intermetallic Nanocatalysts: From In Situ Tailored Synthesis to Unexpected Hydrogenation Selectivity. *Angewandte Chemie - International Edition*, **2021**, 60, 18309-18317	16.4	6
110	Thermal Unequilibrium of PdSn Intermetallic Nanocatalysts: From In Situ Tailored Synthesis to Unexpected Hydrogenation Selectivity. *Angewandte Chemie*, **2021**, 133, 18457-18465	3.6	3
109	Optimizing the surface distribution of acid sites for cooperative catalysis in condensation reactions promoted by water. *Chem Catalysis*, **2021**, 1, 1065-1065		4
108	Experimental and computational kinetics study of the liquid-phase hydrogenation of CC and CO bonds. *Journal of Catalysis*, **2021**, 404, 771-771	7.3	2
107	Significant Role of Oxygen Dopants in Photocatalytic PFCA Degradation over h-BN. *ACS Applied Materials & Interfaces*, **2021**, 13, 46727-46737	9.5	0
106	Solvent effects on catalytic reactions and related phenomena at liquid-solid interfaces. *Surface Science Reports*, **2021**, 76, 100541	12.9	6
105	Correction: Analysis and visualization of energy densities. I. Insights from real-time time-dependent density functional theory simulations. *Physical Chemistry Chemical Physics*, **2021**, 23, 8936	3.6	0

104	Design-controlled synthesis of IrO sub-monolayers on Au nanoflowers: marrying plasmonic and electrocatalytic properties. *Nanoscale*, **2020**, 12, 12281-12291	7.7	14
103	Structure and Catalytic Characterization of a Second Framework Al(IV) Site in Zeolite Catalysts Revealed by NMR at 35.2 T. *Journal of the American Chemical Society*, **2020**, 142, 7514-7523	16.4	36
102	First-Principles Study on the Structure, Electronic, and Optical Properties of Cs2AgBiBr6-xClx Mixed-Halide Double Perovskites. *Journal of Physical Chemistry C*, **2020**, 124, 5371-5377	3.8	12
101	Nondestructive functionalization of monolayer black phosphorus using Lewis acids: A first-principles study. *Applied Surface Science*, **2020**, 518, 146210	6.7	3
100	Water-Mediated Heterogeneously Catalyzed Reactions. *ACS Catalysis*, **2020**, 10, 1294-1309	13.1	90
99	Relationship between Atomic Scale Structure and Reactivity of Pt Catalysts: Hydrodeoxygenation of m-Cresol over Isolated Pt Cations and Clusters. *ACS Catalysis*, **2020**, 10, 595-603	13.1	37
98	Factors Determining Selectivity of Acid- and Base-Catalyzed Self- and Cross-Condensation of Acetone and Cyclopentanone. *ACS Catalysis*, **2020**, 10, 12790-12800	13.1	6
97	Analysis and visualization of energy densities. I. Insights from real-time time-dependent density functional theory simulations. *Physical Chemistry Chemical Physics*, **2020**, 22, 26838-26851	3.6	3
96	Analysis and visualization of energy densities. II. Insights from linear-response time-dependent density functional theory calculations. *Physical Chemistry Chemical Physics*, **2020**, 22, 26852-26864	3.6	4
95	Oxide-catalyzed self- and cross-condensation of cycloketones. Kinetically relevant steps that determine product distribution. *Journal of Catalysis*, **2020**, 391, 163-174	7.3	5
94	Transition metal-like carbocatalyst. *Nature Communications*, **2020**, 11, 4091	17.4	9
93	Doping-driven electronic and lattice dynamics in the phase-change material vanadium dioxide. *Physical Review B*, **2020**, 102,	3.3	4
92	Water Promotion (or Inhibition) of Condensation Reactions Depends on Exposed Cerium Oxide Catalyst Facets. *ACS Catalysis*, **2020**, 10, 5373-5382	13.1	15
91	Understanding the Different Diffusion Mechanisms of Hydrated Protons and Potassium Ions in Titanium Carbide MXene. *ACS Applied Materials & Interfaces*, **2019**, 11, 7087-7095	9.5	25
90	BrÖstedBrÖsted Synergies between Framework and Noncrystalline Protons in Zeolite H-ZSM-5. *ACS Catalysis*, **2019**, 9, 6124-6136	13.1	20
89	High-Temperature Grafting Silylation for Minimizing Leaching of Acid Functionality from Hydrophobic Mesoporous Silicas Used as Catalysts in the Liquid Phase. *Langmuir*, **2019**, 35, 6838-6852	4	13
88	Stabilization of furanics to cyclic ketone building blocks in the vapor phase. *Applied Catalysis B: Environmental*, **2019**, 254, 491-499	21.8	13
87	Role of In in Hydrogenation of N-Related Complexes in GaInNAs. *ACS Applied Electronic Materials*, **2019**, 1, 461-466	4	4

86	Solvent-mediated charge separation drives alternative hydrogenation path of furanics in liquid water. *Nature Catalysis*, **2019**, 2, 431-436	36.5	93
85	Role of water in cyclopentanone self-condensation reaction catalyzed by MCM-41 functionalized with sulfonic acid groups. *Journal of Catalysis*, **2019**, 377, 245-254	7.3	24
84	Homogeneous versus heterogeneous catalysis in Cu2O-nanoparticle-catalyzed C□ coupling reactions. *Green Chemistry*, **2019**, 21, 5284-5290	10	16
83	Layer-Dependent Interfacial Transport and Optoelectrical Properties of MoS on Ultraflat Metals. *ACS Applied Materials & Interfaces*, **2019**, 11, 31543-31550	9.5	19
82	Aldol Condensation of Cyclopentanone on Hydrophobized MgO. Promotional Role of Water and Changes in the Rate-Limiting Step upon Organosilane Functionalization. *ACS Catalysis*, **2019**, 9, 2831-2841	13.1	26
81	Hydrodeoxygenation of anisole over different Rh surfaces. *Chinese Journal of Catalysis*, **2019**, 40, 1721-1730	11.4	10
80	Physical and Chemical Properties of Phosphorus. *ACS Symposium Series*, **2019**, 61-77	0.4	1
79	Predictors of unfavorable outcome in neurosyphilis: Multicenter ID-IRI Study. *European Journal of Clinical Microbiology and Infectious Diseases*, **2019**, 38, 125-134	5.3	4
78	Rational Surface Modification of Two-Dimensional Layered Black Phosphorus: Insights from First-Principles Calculations. *ACS Omega*, **2018**, 3, 2445-2451	3.9	6
77	Enhanced chemical activity and wettability at adjacent Br□sted acid sites in HZSM-5. *Catalysis Today*, **2018**, 312, 44-50	5.3	18
76	Enhanced Electrochemical and Thermal Transport Properties of Graphene/MoS Heterostructures for Energy Storage: Insights from Multiscale Modeling. *ACS Applied Materials & Interfaces*, **2018** , 10, 14614-14621	9.5	43
75	Reaction Pathway Dependence in Plasmonic Catalysis: Hydrogenation as a Model Molecular Transformation. *Chemistry - A European Journal*, **2018**, 24, 12330-12339	4.8	18
74	C-C Coupling on Single-Atom-Based Heterogeneous Catalyst. *Journal of the American Chemical Society*, **2018**, 140, 954-962	16.4	94
73	Ab initio calculations of ionic hydrocarbon compounds with heptacoordinate carbon. *Journal of Molecular Modeling*, **2018**, 24, 116	2	8
72	The Effect of Cofed Species on the Kinetics of Catalytic Methyl Lactate Dehydration on NaY. *ACS Catalysis*, **2018**, 8, 9066-9078	13.1	7
71	Enhanced hot electron lifetimes in quantum wells with inhibited phonon coupling. *Scientific Reports* , **2018**, 8, 12473	4.9	21
70	Controlling Reaction Selectivity over Hybrid Plasmonic Nanocatalysts. *Nano Letters*, **2018**, 18, 7289-7297	11.5	57
69	Graphene Oxide-Template Controlled Cuboid-Shaped High-Capacity VS4 Nanoparticles as Anode for Sodium-Ion Batteries. *Advanced Functional Materials*, **2018**, 28, 1801806	15.6	94

68	Enhancing the Acylation Activity of Acetic Acid by Formation of an Intermediate Aromatic Ester. *ChemSusChem*, **2017**, 10, 2823-2832	8.3	18
67	Photoresponse of Natural van der Waals Heterostructures. *ACS Nano*, **2017**, 11, 6024-6030	16.7	31
66	Reaction Mechanism for the Conversion of γ-Valerolactone (GVL) over a Ru Catalyst: A First-Principles Study. *Industrial & Engineering Chemistry Research*, **2017**, 56, 3217-3222	3.9	8
65	Interfacial engineering of phthalocyanine molecules on graphitic and metal substrates. *Molecular Simulation*, **2017**, 43, 384-393	2	2
64	Gel based sulfur cathodes with a high sulfur content and large mass loading for high-performance lithium–sulfur batteries. *Journal of Materials Chemistry A*, **2017**, 5, 1650-1657	13	48
63	The effect and nature of N–H complexes in the control of the dominant photoluminescence transitions in UV-hydrogenated GaInNAs. *RSC Advances*, **2017**, 7, 25353-25361	3.7	9
62	Direct quantitative identification of the "surface -effect". *Chemical Science*, **2016**, 7, 5647-5656	9.4	37
61	Direct carbon-carbon coupling of furanics with acetic acid over Brønsted zeolites. *Science Advances*, **2016**, 2, e1601072	14.3	34
60	Zeolite-catalysed C–C bond forming reactions for biomass conversion to fuels and chemicals. *Catalysis Science and Technology*, **2016**, 6, 2543-2559	5.5	71
59	Suppression of phonon-mediated hot carrier relaxation in type-II InAs/AlAsxSb1−x quantum wells: a practical route to hot carrier solar cells. *Progress in Photovoltaics: Research and Applications*, **2016**, 24, 591-599	6.8	26
58	Visualization of Defect-Induced Excitonic Properties of the Edges and Grain Boundaries in Synthesized Monolayer Molybdenum Disulfide. *Journal of Physical Chemistry C*, **2016**, 120, 24080-24087	3.8	16
57	Confining Sulfur Species in Cathodes of Lithium–Sulfur Batteries: Insight into Nonpolar and Polar Matrix Surfaces. *ACS Energy Letters*, **2016**, 1, 481-489	20.1	44
56	Physical justification for ionic conductivity enhancement at strained coherent interfaces. *Journal of Power Sources*, **2015**, 285, 37-42	8.9	22
55	Reaction of Phthalocyanines with Graphene on Ir(111). *Journal of the American Chemical Society*, **2015**, 137, 9452-8	16.4	35
54	Ultrafast phase transition via catastrophic phonon collapse driven by plasmonic hot-electron injection. *Nano Letters*, **2014**, 14, 1127-33	11.5	106
53	Substitutional doping of graphene: The role of carbon divacancies. *Physical Review B*, **2014**, 89,	3.3	45
52	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. *Carbon*, **2014**, 80, 268-278	10.4	75
51	Formation of Large Polysulfide Complexes during the Lithium-Sulfur Battery Discharge. *Physical Review Applied*, **2014**, 2,	4.3	89

50	Probing excitonic states in suspended two-dimensional semiconductors by photocurrent spectroscopy. *Scientific Reports*, **2014**, 4, 6608	4.9	285
49	Electrical Stress and Total Ionizing Dose Effects on ${hbox {MoS}}_{2}$ Transistors. *IEEE Transactions on Nuclear Science*, **2014**, 61, 2862-2867	1.7	19
48	Total Ionizing Dose Effects on hBN Encapsulated Graphene Devices. *IEEE Transactions on Nuclear Science*, **2014**, 61, 2868-2873	1.7	24
47	Efficient catalytic dehydration of methyl lactate to acrylic acid using sulphate and phosphate modified MCM-41 catalysts. *Applied Catalysis A: General*, **2014**, 487, 219-225	5.1	14
46	Hydrogen dynamics and metallic phase stabilization in VO2. *Applied Physics Letters*, **2014**, 104, 101913	3.4	30
45	Bandgap engineering of strained monolayer and bilayer MoS2. *Nano Letters*, **2013**, 13, 3626-30	11.5	1516
44	A current-sensor electrochemical device for accurate gas diffusivity measurement in fuel cells. *Journal of Power Sources*, **2013**, 232, 93-98	8.9	9
43	Room-temperature reactions for self-cleaning molecular nanosensors. *Nano Letters*, **2013**, 13, 798-802	11.5	18
42	Enhanced photoresponse in curled graphene ribbons. *Nanoscale*, **2013**, 5, 12206-11	7.7	7
41	Gas transport in porous electrodes of solid oxide fuel cells: A review on diffusion and diffusivity measurement. *Journal of Power Sources*, **2013**, 237, 64-73	8.9	62
40	Introduction of nitrogen with controllable configuration into graphene via vacancies and edges. *Journal of Materials Chemistry A*, **2013**, 1, 14927	13	32
39	Scalable synthesis of uniform few-layer hexagonal boron nitride dielectric films. *Nano Letters*, **2013**, 13, 276-81	11.5	149
38	Enhanced chemical reactions of oxygen at grain boundaries in polycrystalline graphene. *Polyhedron*, **2013**, 64, 158-162	2.7	20
37	Growth of Solid and Hollow Gold Particles through the Thermal Annealing of Nanoscale Patterned Thin Films. *ACS Applied Materials & Interfaces*, **2013**, 5, 11590-6	9.5	13
36	Defects and doping and their role in functionalizing graphene. *MRS Bulletin*, **2012**, 37, 1187-1194	3.2	56
35	Interfacial coupling in rotational monolayer and bilayer graphene on Ru(0001) from first principles. *Nanoscale*, **2012**, 4, 4687-93	7.7	18
34	An analytical expression for the van der Waals interaction in oriented-attachment growth: a spherical nanoparticle and a growing cylindrical nanorod. *Physical Chemistry Chemical Physics*, **2012**, 14, 4548-53	3.6	34
33	Probing charge scattering mechanisms in suspended graphene by varying its dielectric environment. *Nature Communications*, **2012**, 3, 734	17.4	103

32	Ozone-exposure and annealing effects on graphene-on-SiO2 transistors. *Applied Physics Letters*, **2012**, 101, 121601	3.4	36
31	Overall concentration polarization and limiting current density of fuel cells with nanostructured electrodes. *Nano Energy*, **2012**, 1, 828-832	17.1	26
30	Surface Reactions and Defect Formation in Irradiated Graphene Devices. *IEEE Transactions on Nuclear Science*, **2012**, 59, 3039-3044	1.7	11
29	Magnetic moment of a single vacancy in graphene and semiconducting nanoribbons. *Physical Review B*, **2012**, 86,	3.3	43
28	Voltage-dependent conductance states of a single-molecule junction. *Journal of Physics Condensed Matter*, **2012**, 24, 394012	1.8	1
27	Role of defects in the phase transition of VO2 nanoparticles probed by plasmon resonance spectroscopy. *Nano Letters*, **2012**, 12, 780-6	11.5	165
26	A Multisensor Device for Highly Efficient Diffusivity Measurements and Overall-Concentration-Polarization Evaluation in Fuel Cells. *Advanced Energy Materials*, **2012**, 2, 329-333	21.8	29
25	Templating of arrays of Ru nanoclusters by monolayer graphene/Ru Moiré with different periodicities. *Journal of Physics Condensed Matter*, **2012**, 24, 314201	1.8	11
24	Simulation of high-energy ion collisions with graphene fragments. *Physical Review B*, **2012**, 85,	3.3	51
23	Controllable healing of defects and nitrogen doping of graphene by CO and NO molecules. *Physical Review B*, **2011**, 83,	3.3	62
22	Single terrace growth of graphene on a metal surface. *Nano Letters*, **2011**, 11, 1895-900	11.5	63
21	. *IEEE Transactions on Nuclear Science*, **2011**, 58, 2961-2967	1.7	49
20	Doubling the diffusivity measurement efficiency in solid oxide fuel cells (SOFCs) via a bi-sensor electrochemical cell. *Journal of Power Sources*, **2011**, 196, 9985-9988	8.9	14
19	Ionization-enhanced decomposition of 2,4,6-trinitrotoluene (TNT) molecules. *Journal of Physical Chemistry A*, **2011**, 115, 8142-6	2.8	11
18	Pyridine Adsorption on Single-Layer Iron Phthalocyanine on Au(111). *Journal of Physical Chemistry C* , **2011**, 115, 20201-20208	3.8	27
17	Comparison of the Carbonyl and Nitrosyl Complexes Formed by Adsorption of CO and NO on Monolayers of Iron Phthalocyanine on Au(111). *Journal of Physical Chemistry C*, **2011**, 115, 24718-24727	3.8	39
16	Monolayer Graphene and h-BN on Metal Substrates as Versatile Templates for Metallic Nanoclusters. *Journal of Physical Chemistry Letters*, **2011**, 2, 2341-2345	6.4	55
15	Strain enhanced defect reactivity at grain boundaries in polycrystalline graphene. *Carbon*, **2011**, 49, 3983-3988	5.4	69

14	Arrays of Ru nanoclusters with narrow size distribution templated by monolayer graphene on Ru. *Surface Science*, **2011**, 605, 1676-1684	1.8	65
13	Ammonia adsorption on iron phthalocyanine on Au(111): influence on adsorbate-substrate coupling and molecular spin. *Journal of Chemical Physics*, **2011**, 134, 114710	3.9	35
12	Adsorption of ammonia on multilayer iron phthalocyanine. *Journal of Chemical Physics*, **2011**, 134, 114715	3.9	13
11	Periodicity, work function and reactivity of graphene on Ru(0001) from first principles. *New Journal of Physics*, **2010**, 12, 043041	2.9	95
10	Graphene on Ru(0001): contact formation and chemical reactivity on the atomic scale. *Physical Review Letters*, **2010**, 105, 236101	7.4	46
9	Structure determination of the coincidence phase of graphene on Ru(0001). *Physical Review Letters* , **2010**, 104, 136102	7.4	164
8	Tuning the spin state of iron phthalocyanine by ligand adsorption. *Journal of Physics Condensed Matter*, **2010**, 22, 472002	1.8	51
7	Metal□rganic interaction probed by First Principles STM simulations. *Progress in Surface Science*, **2010**, 85, 435-459	6.6	16
6	Electron spectroscopy study of the initial stages of iron phthalocyanine growth on highly oriented pyrolitic graphite. *Journal of Chemical Physics*, **2009**, 131, 214709	3.9	26
5	Comparison of electronic structure and template function of single-layer graphene and a hexagonal boron nitride nanomesh on Ru(0001). *Physical Review B*, **2009**, 79,	3.3	171
4	Chemical origin of a graphene moir□overlayer on Ru(0001). *Physical Chemistry Chemical Physics*, **2008**, 10, 3530-4	3.6	220
3	Comment on "Periodically rippled graphene: growth and spatially resolved electronic structure". *Physical Review Letters*, **2008**, 101, 099703; author reply 099704	7.4	24
2	Photoinduced Electron and Energy Transfer Pathways and Photocatalytic Mechanisms in Hybrid Plasmonic Photocatalysis. *Advanced Optical Materials*,2101128	8.1	6
1	Selective Reduction of Carboxylic Acids to Aldehydes with Promoted MoO3 Catalysts. *ACS Catalysis*,6313-6324	13.1	0