Zhonghua Xiang

List of Publications by Year in Descending Order

91 papers	5,944 citations	38 h-index	77 g-index
92 ext. papers	6,832 ext. citations	10.4 avg, IF	6.27 L-index

#	Paper	IF	Citations
91	Identifying the impact of the covalent-bonded carbon matrix to FeN sites for acidic oxygen reduction.. *Nature Communications*, **2022**, 13, 57	17.4	8
90	FeNi co-doped electrocatalyst synthesized via binary ligand strategy as a bifunctional catalyst for Zn-air flow battery. *Chemical Engineering Science*, **2022**, 247, 117038	4.4	1
89	Binary ligand strategy toward interweaved encapsulation-nanotubes structured electrocatalyst for proton exchange membrane fuel cell. *Journal of Energy Chemistry*, **2022**, 64, 129-135	12	2
88	Dithiine Bridged Phthalocyanine-Based Covalent Organic Frameworks for Highly Efficient Oxygen Reduction Reaction. *Journal of Physical Chemistry C*, **2022**, 126, 4008-4014	3.8	0
87	A Pyrolysis-Free Method Toward Large-Scale Synthesis of Ultra-Highly Efficient Bifunctional Oxygen Electrocatalyst for Zinc-Air Flow Batteries.. *Small*, **2022**, e2201197	11	1
86	Dual-template strategy synthesis of hierarchically porous electrocatalysts for oxygen reduction reaction **2022**, 100006		
85	Sodium laurate-assisted CeO2 nanoparticles as highly efficient and recyclable catalysts for cyanosilylation reaction. *Applied Catalysis A: General*, **2021**, 628, 118404	5.1	0
84	A superior unitary oxygen electrode with accelerated mass transfer and highly exposed active sites for rechargeable air-based batteries. *Journal of Power Sources*, **2021**, 488, 229468	8.9	9
83	Pathways towards Boosting Solar-Driven Hydrogen Evolution of Conjugated Polymers. *Small*, **2021**, 17, e2007576	11	9
82	A new steric tetra-imidazole for facile synthesis of high loading atomically dispersed FeN4 electrocatalysts. *Nano Energy*, **2021**, 80, 105533	17.1	16
81	Localized electron density modulation in conjugated polymer nanosheets for boosting photocatalytic H2 evolution. *Journal of Materials Chemistry A*, **2021**, 9, 19625-19630	13	4
80	Bimetallic MOF-Derived Sulfides with Heterojunction Interfaces Synthesized for Photocatalytic Hydrogen Evolution. *Industrial & Engineering Chemistry Research*, **2021**, 60, 11439-11449	3.9	3
79	Pyrolysis-Free Synthesized Catalyst towards Acidic Oxygen Reduction by Deprotonation. *Angewandte Chemie*, **2021**, 133, 21033-21039	3.6	0
78	Pyrolysis-Free Synthesized Catalyst towards Acidic Oxygen Reduction by Deprotonation. *Angewandte Chemie - International Edition*, **2021**, 60, 20865-20871	16.4	7
77	Highly Accessible Atomically Dispersed Fe-N Sites Electrocatalyst for Proton-Exchange Membrane Fuel Cell. *Advanced Science*, **2021**, 8, 2002249	13.6	26
76	Quasi-Phthalocyanine Conjugated Covalent Organic Frameworks with Nitrogen-Coordinated Transition Metal Centers for High-Efficiency Electrocatalytic Ammonia Synthesis.. *Nano Letters*, **2021**,	11.5	8
75	Microfluidic interface boosted synthesis of covalent organic polymer capsule. *Green Chemical Engineering*, **2020**, 1, 63-69	3	8

74	Nitro-Group-Doped Fully Conjugated 2D Covalent Organic Polymers for Enhanced Oxygen Reduction Reaction. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 3728-3733	8.3	5
73	HiGee Strategy toward Rapid Mass Production of Porous Covalent Organic Polymers with Superior Methane Deliverable Capacity. *Advanced Functional Materials*, **2020**, 30, 1908079	15.6	6
72	How PM2.5 Affects Pt-Catalyzed Oxygen Reduction Reaction. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 9385-9392	8.3	2
71	High retention volume covalent organic polymer for xenon capture: Dynamic separation of Xe and Kr. *Green Energy and Environment*, **2020**,	5.7	1
70	PAF-1 as oxygen tank to in-situ synthesize edge-exposed O-MoS2 for highly efficient hydrogen evolution. *Catalysis Today*, **2020**, 347, 56-62	5.3	4
69	Soluble Covalent Organic Polymer for the Flexible Electrode of Supercapacitors. *Frontiers in Materials*, **2019**, 6,	4	4
68	Two-Dimensional Closed Conjugated Covalent Organic Polymers for Oxygen Reduction Reaction. *Frontiers in Materials*, **2019**, 6,	4	2
67	A long-life hybrid zinc flow battery achieved by dual redox couples at cathode. *Nano Energy*, **2019**, 63, 103822	17.1	21
66	Target-oriented electrode constructions toward ultra-fast and ultra-stable all-graphene lithium ion capacitors. *Energy Storage Materials*, **2019**, 23, 409-417	19.4	29
65	Hierarchically porous metal-free carbon with record high mass activity for oxygen reduction and Zn-air batteries. *Journal of Materials Chemistry A*, **2019**, 7, 9831-9836	13	42
64	Toward high energy-density and long cycling-lifespan lithium ion capacitors: a 3D carbon modified low-potential Li2TiSiO5 anode coupled with a lignin-derived activated carbon cathode. *Journal of Materials Chemistry A*, **2019**, 7, 8234-8244	13	38
63	Mechanistic Understanding of Size-Dependent Oxygen Reduction Activity and Selectivity over Pt/CNT Nanocatalysts. *European Journal of Inorganic Chemistry*, **2019**, 2019, 3210-3217	2.3	12
62	A pyrolysis-free path toward superiorly catalytic nitrogen-coordinated single atom. *Science Advances*, **2019**, 5, eaaw2322	14.3	168
61	In situ growing catalytic sites on 3D carbon fiber paper as self-standing bifunctional air electrodes for air-based flow batteries. *Nano Energy*, **2019**, 63, 103897	17.1	17
60	2020 roadmap on two-dimensional materials for energy storage and conversion. *Chinese Chemical Letters*, **2019**, 30, 2053-2064	8.1	108
59	Fully Conjugated Covalent Organic Polymer with Carbon-Encapsulated NiP for Highly Sustained Photocatalytic H Production from Seawater. *ACS Applied Materials & Interfaces*, **2019**, 11, 41313-41320	8.5	38
58	In Situ Charge Exfoliated Soluble Covalent Organic Framework Directly Used for Zn-Air Flow Battery. *ACS Nano*, **2019**, 13, 878-884	16.7	107
57	Bimetal-phthalocyanine based covalent organic polymers for highly efficient oxygen electrode. *Applied Catalysis B: Environmental*, **2019**, 243, 204-211	21.8	39

56	Microfluidics for synthesis and morphology control of hierarchical porous covalent organic polymer monolith. *Chemical Engineering Science*, **2019**, 195, 801-809	4.4	7
55	Reaction milling for scalable synthesis of N, P-codoped covalent organic polymers for metal-free bifunctional electrocatalysts. *Chemical Engineering Journal*, **2019**, 358, 427-434	14.7	35
54	Highly efficient electrocatalysts derived from carbon black supported non-precious metal macrocycle catalysts for oxygen reduction reaction. *Journal of Energy Chemistry*, **2019**, 28, 73-78	12	17
53	Superior oxygen electrocatalysts derived from predesigned covalent organic polymers for zinc-air flow batteries. *Nanoscale*, **2018**, 11, 211-218	7.7	15
52	N-rich covalent organic polymer in situ modified TiO2 for highly efficient photocatalytic hydrogen evolution. *Science Bulletin*, **2018**, 63, 369-375	10.6	13
51	Efficient unitary oxygen electrode for air-based flow batteries. *Nano Energy*, **2018**, 47, 361-367	17.1	28
50	In-situ La doped Co3O4 as highly efficient photocatalyst for solar hydrogen generation. *International Journal of Hydrogen Energy*, **2018**, 43, 8674-8682	6.7	45
49	Controlled synthesis of porous nitrogen-doped carbon nanoshells for highly efficient oxygen reduction. *Reaction Chemistry and Engineering*, **2018**, 3, 238-243	4.9	4
48	A Pyrolysis-Free Covalent Organic Polymer for Oxygen Reduction. *Angewandte Chemie*, **2018**, 130, 12747-12752	5.6	28
47	A Pyrolysis-Free Covalent Organic Polymer for Oxygen Reduction. *Angewandte Chemie - International Edition*, **2018**, 57, 12567-12572	16.4	77
46	Cobalt Incorporated Porous Aromatic Framework for CO2/CH4 Separation. *Industrial & Engineering Chemistry Research*, **2018**, 57, 10985-10991	3.9	8
45	Ultrastable and Efficient Visible-Light-Driven Hydrogen Production Based on Donor-Acceptor Copolymerized Covalent Organic Polymer. *ACS Applied Materials & Interfaces*, **2018**, 10, 30698-30705	8.5	49
44	Unveiling the high-activity origin of single-atom iron catalysts for oxygen reduction reaction. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 6626-6631	11.5	346
43	Pyrene-Based Covalent Organic Polymers for Enhanced Photovoltaic Performance and Solar-Driven Hydrogen Production. *ACS Applied Energy Materials*, **2018**, 1, 7007-7013	6.1	8
42	Covalent organic polymer modified TiO 2 nanosheets as highly efficient photocatalysts for hydrogen generation. *Chemical Engineering Science*, **2017**, 162, 33-40	4.4	31
41	Effect of an acetylene bond on hydrogen adsorption in diamond-like carbon allotropes: from first principles to atomic simulation. *Physical Chemistry Chemical Physics*, **2017**, 19, 9261-9269	3.6	9
40	Well-Defined 2D Covalent Organic Polymers for Energy Electrocatalysis. *ACS Energy Letters*, **2017**, 2, 1308-1314	20.1	87
39	Ultrastable hydrogen evolution electrocatalyst derived from phosphide postmodified metal-organic frameworks. *Nano Energy*, **2017**, 35, 115-120	17.1	53

38	Holey Graphitic Carbon Derived from Covalent Organic Polymers Impregnated with Nonprecious Metals for CO2 Capture from Natural Gas. *Particle and Particle Systems Characterization*, **2017**, 34, 1600219	3.1	5
37	Fungi residue derived carbon as highly efficient hydrogen peroxide electrocatalyst. *Chemical Engineering Science*, **2017**, 174, 222-228	4.4	7
36	Highly efficient iron–nitrogen electrocatalyst derived from covalent organic polymer for oxygen reduction. *Journal of Energy Chemistry*, **2017**, 26, 1168-1173	12	21
35	Confined-Space-Assisted Preparation of Fe3O4-Nanoparticle-Modified Fe–N–C Catalysts Derived from a Covalent Organic Polymer for Oxygen Reduction. *ACS Sustainable Chemistry and Engineering*, **2017**, 5, 7871-7877	8.3	47
34	Highly Efficient Oxygen Reduction Reaction Electrocatalysts Synthesized under Nanospace Confinement of Metal-Organic Framework. *ACS Nano*, **2017**, 11, 8379-8386	16.7	80
33	Two-Dimensional Fully Conjugated Polymeric Photosensitizers for Advanced Photodynamic Therapy. *Chemistry of Materials*, **2016**, 28, 8651-8658	9.6	42
32	Edge Functionalization of Graphene and Two-Dimensional Covalent Organic Polymers for Energy Conversion and Storage. *Advanced Materials*, **2016**, 28, 6253-61	24	120
31	Phosphorous–Nitrogen-Codoped Carbon Materials Derived from Metal–Organic Frameworks as Efficient Electrocatalysts for Oxygen Reduction Reactions. *European Journal of Inorganic Chemistry*, **2016**, 2016, 2100-2105	2.3	57
30	Dynamic separation of Xe and Kr by metal-organic framework and covalent-organic materials: a comparison with activated charcoal. *Science China Chemistry*, **2016**, 59, 643-650	7.9	17
29	Systematic Tuning and Multifunctionalization of Covalent Organic Polymers for Enhanced Carbon Capture. *Journal of the American Chemical Society*, **2015**, 137, 13301-7	16.4	171
28	PAF-derived nitrogen-doped 3D Carbon Materials for Efficient Energy Conversion and Storage. *Scientific Reports*, **2015**, 5, 8307	4.9	25
27	Well-defined two dimensional covalent organic polymers: rational design, controlled syntheses, and potential applications. *Polymer Chemistry*, **2015**, 6, 1896-1911	4.9	162
26	Photoelectronic Porous Covalent Organic Materials: Research Progress and Perspective. *Acta Chimica Sinica*, **2015**, 73, 557	3.3	16
25	Highly efficient electrocatalysts for oxygen reduction based on 2D covalent organic polymers complexed with non-precious metals. *Angewandte Chemie - International Edition*, **2014**, 53, 2433-7	16.4	363
24	Nitrogen-doped holey graphitic carbon from 2D covalent organic polymers for oxygen reduction. *Advanced Materials*, **2014**, 26, 3315-20	24	259
23	An amino group functionalized metal–organic framework as a luminescent probe for highly selective sensing of Fe3+ ions. *Journal of Materials Chemistry A*, **2014**, 2, 7662	13	280
22	ZIF-derived in situ nitrogen-doped porous carbons as efficient metal-free electrocatalysts for oxygen reduction reaction. *Energy and Environmental Science*, **2014**, 7, 442-450	35.4	634
21	Preparation and Characterization of Covalent Organic Polymer Supported Palladium Catalysts for Oxidation of CO and Benzyl Alcohol. *Industrial & Engineering Chemistry Research*, **2014**, 53, 1359-1367	3.9	18

20	Oxygen Reduction: Nitrogen-Doped Holey Graphitic Carbon from 2D Covalent Organic Polymers for Oxygen Reduction (Adv. Mater. 20/2014). *Advanced Materials*, **2014**, 26, 3356-3356	24	6
19	Highly Efficient Electrocatalysts for Oxygen Reduction Based on 2D Covalent Organic Polymers Complexed with Non-precious Metals. *Angewandte Chemie*, **2014**, 126, 2465-2469	3.6	47
18	Improving Energy Conversion Efficiency of Dye-Sensitized Solar Cells by Modifying TiO2 Photoanodes with Nitrogen-Reduced Graphene Oxide. *ACS Sustainable Chemistry and Engineering*, **2014**, 2, 1234-1240	8.3	50
17	A porous diamond carbon framework: a new carbon allotrope with extremely high gas adsorption and mechanical properties. *Journal of Materials Chemistry A*, **2013**, 1, 3851	13	28
16	Porous covalent□organic materials: synthesis, clean energy application and design. *Journal of Materials Chemistry A*, **2013**, 1, 2691-2718	13	300
15	Selective adsorption of carbon dioxide by carbonized porous aromatic framework (PAF). *Energy and Environmental Science*, **2012**, 5, 8370	35.4	200
14	Covalent-organic polymers for carbon dioxide capture. *Journal of Materials Chemistry*, **2012**, 22, 22663		136
13	Postsynthetic Lithium Modification of Covalent-Organic Polymers for Enhancing Hydrogen and Carbon Dioxide Storage. *Journal of Physical Chemistry C*, **2012**, 116, 5974-5980	3.8	90
12	Semiconducting and conducting transition of covalent-organic polymers induced by defects. *Nanotechnology*, **2012**, 23, 395702	3.4	4
11	Functional Group Modification of Metal□Organic Frameworks for CO2 Capture. *Journal of Physical Chemistry C*, **2012**, 116, 10573-10579	3.8	64
10	Synthesis of luminescent covalent-organic polymers for detecting nitroaromatic explosives and small organic molecules. *Macromolecular Rapid Communications*, **2012**, 33, 1184-90	4.8	192
9	Lithium doping on metal-organic frameworks for enhancing H2 Storage. *International Journal of Hydrogen Energy*, **2012**, 37, 946-950	6.7	59
8	Capture and separation of CO₂ by porous coordination frameworks: Research progress and perspective. *Scientia Sinica Chimica*, **2012**, 42, 235-244	1.6	3
7	[email□protected]3(BTC)2 and Metal□Organic Frameworks for Separation of CO2/CH4 Mixture. *Journal of Physical Chemistry C*, **2011**, 115, 19864-19871	3.8	126
6	Zeolitic imidazolate framework-8 as a luminescent material for the sensing of metal ions and small molecules. *Journal of Materials Chemistry*, **2011**, 21, 6649		226
5	Metal□Organic Frameworks with Incorporated Carbon Nanotubes: Improving Carbon Dioxide and Methane Storage Capacities by Lithium Doping. *Angewandte Chemie*, **2011**, 123, 511-514	3.6	16
4	Metal-organic frameworks with incorporated carbon nanotubes: improving carbon dioxide and methane storage capacities by lithium doping. *Angewandte Chemie - International Edition*, **2011**, 50, 491-4	16.4	229
3	Multiscale simulation and modelling of adsorptive processes for energy gas storage and carbon dioxide capture in porous coordination frameworks. *Energy and Environmental Science*, **2010**, 3, 1469	35.4	130

2	Facile preparation of high-capacity hydrogen storage metal-organic frameworks: A combination of microwave-assisted solvothermal synthesis and supercritical activation. *Chemical Engineering Science*, **2010**, 65, 3140-3146	4.4	69
1	Hydrogen Storage in Mesoporous Coordination Frameworks: Experiment and Molecular Simulation. *Journal of Physical Chemistry C*, **2009**, 113, 15106-15109	3.8	50