Hiroyasu Furukawa

List of Publications by Year
in descending order

101 papers	50,383 citations	17429 63 h-index	30894 102 g-index
107 all docs	107 docs citations	107 times ranked	31881 citing authors

#	Article	IF	Citations
1	The Chemistry and Applications of Metal-Organic Frameworks. Science, 2013, 341, 1230444.	6.0	12,032
2	High-Throughput Synthesis of Zeolitic Imidazolate Frameworks and Application to CO ₂ Capture. Science, 2008, 319, 939-943.	6.0	3,592
3	Ultrahigh Porosity in Metal-Organic Frameworks. Science, 2010, 329, 424-428.	6.0	3,306
4	Storage of Hydrogen, Methane, and Carbon Dioxide in Highly Porous Covalent Organic Frameworks for Clean Energy Applications. Journal of the American Chemical Society, 2009, 131, 8875-8883.	6.6	2,208
5	Water Adsorption in Porous Metalâ€“Organic Frameworks and Related Materials. Journal of the American Chemical Society, 2014, 136, 4369-4381.	6.6	2,002
6	Large-Pore Apertures in a Series of Metal-Organic Frameworks. Science, 2012, 336, 1018-1023.	6.0	1,729
7	Multiple Functional Groups of Varying Ratios in Metal-Organic Frameworks. Science, 2010, 327, 846-850.	6.0	1,607
8	Colossal cages in zeolitic imidazolate frameworks as selective carbon dioxide reservoirs. Nature, 2008, 453, 207-211.	13.7	1,452
9	A Crystalline Imine-Linked 3-D Porous Covalent Organic Framework. Journal of the American Chemical Society, 2009, 131, 4570-4571.	6.6	1,299
10	Control of Pore Size and Functionality in Isoreticular Zeolitic Imidazolate Frameworks and their Carbon Dioxide Selective Capture Properties. Journal of the American Chemical Society, 2009, 131, 3875-3877.	6.6	1,297
11	Water harvesting from air with metal-organic frameworks powered by natural sunlight. Science, 2017, 356, 430-434.	6.0	1,179
12	Highly efficient separation of carbon dioxide by a metal-organic framework replete with open metal sites. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20637-20640.	3.3	1,042
13	Zeolite A imidazolate frameworks. Nature Materials, 2007, 6, 501-506.	13.3	917
14	Synthesis, Structure, and Metalation of Two New Highly Porous Zirconium Metalâ€“Organic Frameworks. Inorganic Chemistry, 2012, 51, 6443-6445.	1.9	763
15	Covalent Organic Frameworks as Exceptional Hydrogen Storage Materials. Journal of the American Chemical Society, 2008, 130, 11580-11581.	6.6	746
16	Crystalline Covalent Organic Frameworks with Hydrazone Linkages. Journal of the American Chemical Society, 2011, 133, 11478-11481.	6.6	731
17	Reticular Synthesis of Microporous and Mesoporous 2D Covalent Organic Frameworks. Journal of the American Chemical Society, 2007, 129, 12914-12915.	6.6	682
18	Covalent Organic Frameworks with High Charge Carrier Mobility. Chemistry of Materials, 2011, 23, 4094-4097.	3.2	659

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19	Crystals as Molecules: Postsynthesis Covalent Functionalization of Zeolitic Imidazolate Frameworks. Journal of the American Chemical Society, 2008, 130, 12626-12627.	6.6	655
20	New Porous Crystals of Extended Metal-Catecholates. Chemistry of Materials, 2012, 24, 3511-3513.	3.2	618
21	Metalâ€"Organic Frameworks from Edible Natural Products. Angewandte Chemie - International Edition, 2010, 49, 8630-8634.	7.2	568
22	Independent verification of the saturation hydrogen uptake in MOF-177 and establishment of a benchmark for hydrogen adsorption in metalâ€"organic frameworks. Journal of Materials Chemistry, 2007, 17, 3197.	6.7	536
23	Metal Insertion in a Microporous Metalâˆ'Organic Framework Lined with 2,2â€²-Bipyridine. Journal of the American Chemical Society, 2010, 132, 14382-14384.	6.6	514
24	Control of Vertex Geometry, Structure Dimensionality, Functionality, and Pore Metrics in the Reticular Synthesis of Crystalline Metalâˆ'Organic Frameworks and Polyhedra. Journal of the American Chemical Society, 2008, 130, 11650-11661.	6.6	498
25	A Multiunit Catalyst with Synergistic Stability and Reactivity: A Polyoxometalateâ€"Metal Organic Framework for Aerobic Decontamination. Journal of the American Chemical Society, 2011, 133, 16839-16846.	6.6	475
26	â€œHeterogeneity within Orderâ€•in Metalâ€"Organic Frameworks. Angewandte Chemie - International Edition, 2015, 54, 3417-3430.	7.2	465
27	Weaving of organic threads into a crystalline covalent organic framework. Science, 2016, 351, 365-369.	6.0	427
28	High Methane Storage Capacity in Aluminum Metalâ€"Organic Frameworks. Journal of the American Chemical Society, 2014, 136, 5271-5274.	6.6	410
29	Synthesis and Characterization of Metalâ€"Organic Framework-74 Containing 2, 4, 6, 8, and 10 Different Metals. Inorganic Chemistry, 2014, 53, 5881-5883.	1.9	397
30	Single-Crystal Structure of a Covalent Organic Framework. Journal of the American Chemical Society, 2013, 135, 16336-16339.	6.6	392
31	Metalâ€"Organic Frameworks with Precisely Designed Interior for Carbon Dioxide Capture in the Presence of Water. Journal of the American Chemical Society, 2014, 136, 8863-8866.	6.6	369
32	Strong and Reversible Binding of Carbon Dioxide in a Green Metalâ€"Organic Framework. Journal of the American Chemical Society, 2011, 133, 15312-15315.	6.6	346
33	Introduction of Functionality, Selection of Topology, and Enhancement of Gas Adsorption in Multivariate Metalâ€"Organic Framework-177. Journal of the American Chemical Society, 2015, 137, 2641-2650.	6.6	339
34	Isoreticular Expansion of Metalâ€"Organic Frameworks with Triangular and Square Building Units and the Lowest Calculated Density for Porous Crystals. Inorganic Chemistry, 2011, 50, 9147-9152.	1.9	322
35	A Combined Experimentalâˆ'Computational Investigation of Carbon Dioxide Capture in a Series of Isoreticular Zeolitic Imidazolate Frameworks. Journal of the American Chemical Society, 2010, 132, 11006-11008.	6.6	303
36	Three-Dimensional Metal-Catecholate Frameworks and Their Ultrahigh Proton Conductivity. Journal of the American Chemical Society, 2015, 137, 15394-15397.	6.6	274

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37	Nanoporous Carbohydrate Metalâ€"Organic Frameworks. Journal of the American Chemical Society, 2012, 134, 406-417.	6.6	271
38	Isoreticular Metalation of Metalâ^'Organic Frameworks. Journal of the American Chemical Society, 2009, 131, 9492-9493.	6.6	266
39	A Titaniumâ€"Organic Framework as an Exemplar of Combining the Chemistry of Metalâ€" and Covalentâ€"Organic Frameworks. Journal of the American Chemical Society, 2016, 138, 4330-4333.	6.6	260
40	High Methane Storage Working Capacity in Metalâ€"Organic Frameworks with Acrylate Links. Journal of the American Chemical Society, 2016, 138, 10244-10251.	6.6	253
41	Photophysical pore control in an azobenzene-containing metalâ€"organic framework. Chemical Science, 2013, 4, 2858.	3.7	239
42	Porous, Conductive Metalâ€Triazolates and Their Structural Elucidation by the Chargeâ€Flipping Method. Chemistry - A European Journal, 2012, 18, 10595-10601.	1.7	227
43	Selective Capture of Carbon Dioxide under Humid Conditions by Hydrophobic Chabaziteâ€Type Zeolitic Imidazolate Frameworks. Angewandte Chemie - International Edition, 2014, 53, 10645-10648.	7.2	225
44	A Metalâ^'Organic Framework with Covalently Bound Organometallic Complexes. Journal of the American Chemical Society, 2010, 132, 9262-9264.	6.6	206
45	Seven Post-synthetic Covalent Reactions in Tandem Leading to Enzyme-like Complexity within Metalâ€"Organic Framework Crystals. Journal of the American Chemical Society, 2016, 138, 8352-8355.	6.6	186
46	Adsorption Mechanism and Uptake of Methane in Covalent Organic Frameworks: Theory and Experiment. Journal of Physical Chemistry A, 2010, 114, 10824-10833.	1.1	177
47	Hydrogen Storage in New Metalâ€"Organic Frameworks. Journal of Physical Chemistry C, 2012, 116, 13143-13151.	1.5	174
48	Crystal Structure, Dissolution, and Deposition of a 5 nm Functionalized Metalâ^'Organic Great Rhombicuboctahedron. Journal of the American Chemical Society, 2006, 128, 8398-8399.	6.6	170
49	An assessment of strategies for the development of solid-state adsorbents for vehicular hydrogen storage. Energy and Environmental Science, 2018, 11, 2784-2812.	15.6	162
50	Synthesis and Structure of Chemically Stable Metalâ^'Organic Polyhedra. Journal of the American Chemical Society, 2009, 131, 12532-12533.	6.6	150
51	Catalytic nickel nanoparticles embedded in a mesoporous metalâ€"organic framework. Chemical Communications, 2010, 46, 3086.	2.2	148
52	Reversible Interpenetration in a Metalâ€"Organic Framework Triggered by Ligand Removal and Addition. Angewandte Chemie - International Edition, 2012, 51, 8791-8795.	7.2	129
53	Ring-Opening Reactions within Porous Metalâ^'Organic Frameworks. Inorganic Chemistry, 2010, 49, 6387-6389.	1.9	115
54	A Combined Experimental-Computational Study on the Effect of Topology on Carbon Dioxide Adsorption in Zeolitic Imidazolate Frameworks. Journal of Physical Chemistry C, 2012, 116, 24084-24090.	1.5	112

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55	Structure-Based Design of Functional Amyloid Materials. Journal of the American Chemical Society, 2014, 136, 18044-18051.	6.6	102
56	A Covalent Organic Framework that Exceeds the DOE 2015 Volumetric Target for H₂ Uptake at 298 K. Journal of Physical Chemistry Letters, 2012, 3, 2671-2675.	2.1	95
57	Designed amyloid fibers as materials for selective carbon dioxide capture. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 191-196.	3.3	93
58	High proton conductivity at low relative humidity in an anionic Fe-based metalâ€“organic framework. Journal of Materials Chemistry A, 2016, 4, 3638-3641.	5.2	87
59	A Combined Experimentalâ€“Computational Investigation of Methane Adsorption and Selectivity in a Series of Isoreticular Zeolitic Imidazolate Frameworks. Journal of Physical Chemistry C, 2013, 117, 10326-10335.	1.5	83
60	Ambient-Temperature Hydrogen Storage via Vanadium(II)-Dihydrogen Complexation in a Metalâ€“Organic Framework. Journal of the American Chemical Society, 2021, 143, 6248-6256.	6.6	81
61	Low-energy regeneration and high productivity in a lanthanideâ€“hexacarboxylate framework for high-pressure CO2â€“CH4â€“H2 separation. Chemical Communications, 2013, 49, 6773.	2.2	66
62	Characterization of Adsorption Enthalpy of Novel Water-Stable Zeolites and Metal-Organic Frameworks. Scientific Reports, 2016, 6, 19097.	1.6	59
63	Azulene based metalâ€“organic frameworks for strong adsorption of H2. Chemical Communications, 2010, 46, 7981.	2.2	57
64	Synthesis and Selective CO₂ Capture Properties of a Series of Hexatopic Linker-Based Metalâ€“Organic Frameworks. Inorganic Chemistry, 2015, 54, 10065-10072.	1.9	57
65	Electrochemical Properties of Nanostructured Amorphous, Sol-gel-Synthesized TiO[sub 2]/Acetylene Black Composite Electrodes. Journal of the Electrochemical Society, 2004, 151, A527.	1.3	53
66	Precision Replication of Hierarchical Biological Structures by Metal Oxides Using a Sonochemical Method. Langmuir, 2008, 24, 6292-6299.	1.6	53
67	Mixed-Metal Zeolitic Imidazolate Frameworks and their Selective Capture of Wet Carbon Dioxide over Methane. Inorganic Chemistry, 2016, 55, 6201-6207.	1.9	52
68	High Methanol Uptake Capacity in Two New Series of Metalâ€“Organic Frameworks: Promising Materials for Adsorption-Driven Heat Pump Applications. Chemistry of Materials, 2016, 28, 6243-6249.	3.2	44
69	Effective Inclusion of Chlorophyllous Pigments into Mesoporous Silica Modified with Î±,Ï‰-Diols. Chemistry of Materials, 2001, 13, 2722-2729.	3.2	40
70	A mesoporous lanthanideâ€“organic framework constructed from a dendritic hexacarboxylate with cages of 2.4 nm. CrystEngComm, 2013, 15, 9328.	1.3	36
71	Negative cooperativity upon hydrogen bond-stabilized O2 adsorption in a redox-active metalâ€“organic framework. Nature Communications, 2020, 11, 3087.	5.8	36
72	Incorporation of active metal sites in MOFs via in situ generated ligand deficient metalâ€“linker complexes. Chemical Communications, 2011, 47, 11882.	2.2	35

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73	Immobilization of chlorophyll derivatives into mesoporous silica and energy transfer between the chromophores in mesopores. Chemical Communications, 2001, , 2002-2003.	2.2	32
74	Iron detection and remediation with a functionalized porous polymer applied to environmental water samples. Chemical Science, 2019, 10, 6651-6660.	3.7	30
75	Synthesis and hydrogen adsorption properties of internally polarized 2,6-azulenedicarboxylate based metalâ€“organic frameworks. Journal of Materials Chemistry A, 2014, 2, 18823-18830.	5.2	29
76	<scp>l</scp>-Aspartate links for stable sodium metalâ€“organic frameworks. Chemical Communications, 2015, 51, 17463-17466.	2.2	28
77	Cost and potential of metalâ€“organic frameworks for hydrogen back-up power supply. Nature Energy, 2022, 7, 448-458.	19.8	28
78	Energy Transfer between Chlorophyll Derivatives in Silica Mesostructured Films and Photocurrent Generation. Langmuir, 2005, 21, 3992-3997.	1.6	27
79	Effect of C132-Stereochemistry on the Molecular Properties of Chlorophylls. Bulletin of the Chemical Society of Japan, 2000, 73, 1341-1351.	2.0	23
80	Combining Linker Design and Linker-Exchange Strategies for the Synthesis of a Stable Large-Pore Zr-Based Metalâ€“Organic Framework. ACS Applied Materials & Interfaces, 2018, 10, 35462-35468.	4.0	20
81	Supramolecular Structures of the Chlorophyllaâ€˜ Aggregate and the Origin of the Diastereoselective Separation of Chlorophyllaandaâ€˜. Journal of Physical Chemistry B, 1998, 102, 7882-7889.	1.2	19
82	Synthesis of Mesoporous Carbon-Containing Ferrocene Derivative and Its Electrochemical Property. Chemistry Letters, 2003, 32, 132-133.	0.7	19
83	Diastereoselective Self-Assemblies of Chlorophylls a and aâ€˜. Journal of Physical Chemistry B, 1999, 103, 7398-7405.	1.2	18
84	Technoeconomic analysis of metalâ€“organic frameworks for bulk hydrogen transportation. Energy and Environmental Science, 2021, 14, 1083-1094.	15.6	18
85	The rotational dynamics of H₂ adsorbed in covalent organic frameworks. Physical Chemistry Chemical Physics, 2017, 19, 13075-13082.	1.3	17
86	Hydrogen Adsorption in a Zeolitic Imidazolate Framework with lta Topology. Journal of Physical Chemistry C, 2018, 122, 15435-15445.	1.5	17
87	Response to Comment on â€œWater harvesting from air with metal-organic frameworks powered by natural sunlightâ€• Science, 2017, 358, .	6.0	16
88	Porous Chiral Metal Organic Carboxylate Frameworks with a Double-interwoven SrSi2Topology: M3(TTCA)2Â·6DMFÂ·7H2O (TTCA = triphenylenetricarboxylate; M = Zn2+, Cd2+). Chemistry Letters, 2006, 35, 1054-1055.	0.7	15
89	High H₂ Sorption Energetics in Zeolitic Imidazolate Frameworks. Journal of Physical Chemistry C, 2017, 121, 1723-1733.	1.5	13
90	Adsorption of Zinc-Metallated Chlorophyllous Pigments on FSM-Type Mesoporous Silica. Chemistry Letters, 2000, 29, 1256-1257.	0.7	10

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91	The Development of Global Science. ACS Central Science, 2015, 1, 18-23.	5.3	9
92	Enhanced water stability and high CO₂ storage capacity of a Lewis basic sites-containing zirconium metalâ€“organic framework. Dalton Transactions, 2021, 50, 16587-16592.	1.6	8
93	Determination of Enzyme Immobilized into Electropolymerized Polymer Films. Chemistry Letters, 2003, 32, 176-177.	0.7	5
94	Response to Comment on â€œWater harvesting from air with metal-organic frameworks powered by natural sunlightâ€" Science, 2017, 358, .	6.0	5
95	Design principles for the ultimate gas deliverable capacity material: nonporous to porous deformations without volume change. Molecular Systems Design and Engineering, 2020, 5, 1491-1503.	1.7	5
96	Synthesis and Characterization of Metalâ€“Organic Frameworks. , 2018, , 17-81.		4
97	Cover Picture: Metal-Organic Frameworks from Edible Natural Products (Angew. Chem. Int. Ed.) Tj ETQq1 1 0.784314 rgBT /Overlock 10	7.2	3
98	Effective inclusion of chlorophyllous pigments into mesoporous silica for the energy transfer between the chromophores. Studies in Surface Science and Catalysis, 2003, 146, 577-580.	1.5	1
99	Extended Linkers for Ultrahigh Surface Area Metal-Organic Frameworks. , 2016, , 271-307.		1
100	Titelbild: Metal-Organic Frameworks from Edible Natural Products (Angew. Chem. 46/2010). Angewandte Chemie, 2010, 122, 8715-8715.	1.6	0
101	RÃ¼cktitelbild: Selective Capture of Carbon Dioxide under Humid Conditions by Hydrophobic Chabazite-Type Zeolitic Imidazolate Frameworks (Angew. Chem. 40/2014). Angewandte Chemie, 2014, 126, 11004-11004.	1.6	0