Hiroyasu Furukawa

List of Publications by Citations

104 papers	40,852 citations	61 h-index	107 g-index
107 ext. papers	45,491 ext. citations	13.1 avg, IF	7.59 L-index

#	Paper	IF	Citations
104	The chemistry and applications of metal-organic frameworks. *Science*, **2013**, 341, 1230444	33.3	9059
103	High-throughput synthesis of zeolitic imidazolate frameworks and application to CO2 capture. *Science*, **2008**, 319, 939-43	33.3	3044
102	Ultrahigh porosity in metal-organic frameworks. *Science*, **2010**, 329, 424-8	33.3	2869
101	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, 8875-83	16.4	1843
100	Water adsorption in porous metal-organic frameworks and related materials. *Journal of the American Chemical Society*, **2014**, 136, 4369-81	16.4	1433
99	Large-pore apertures in a series of metal-organic frameworks. *Science*, **2012**, 336, 1018-23	33.3	1425
98	Multiple functional groups of varying ratios in metal-organic frameworks. *Science*, **2010**, 327, 846-50	33.3	1399
97	Colossal cages in zeolitic imidazolate frameworks as selective carbon dioxide reservoirs. *Nature*, **2008**, 453, 207-11	50.4	1302
96	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, 3875-7	16.4	1146
95	A crystalline imine-linked 3-D porous covalent organic framework. *Journal of the American Chemical Society*, **2009**, 131, 4570-1	16.4	1005
94	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, 20637-40	11.5	950
93	Zeolite A imidazolate frameworks. *Nature Materials*, **2007**, 6, 501-6	27	809
92	Water harvesting from air with metal-organic frameworks powered by natural sunlight. *Science*, **2017**, 356, 430-434	33.3	800
91	Covalent organic frameworks as exceptional hydrogen storage materials. *Journal of the American Chemical Society*, **2008**, 130, 11580-1	16.4	643
90	Synthesis, structure, and metalation of two new highly porous zirconium metal-organic frameworks. *Inorganic Chemistry*, **2012**, 51, 6443-5	5.1	629
89	Reticular synthesis of microporous and mesoporous 2D covalent organic frameworks. *Journal of the American Chemical Society*, **2007**, 129, 12914-5	16.4	601
88	Crystalline covalent organic frameworks with hydrazone linkages. *Journal of the American Chemical Society*, **2011**, 133, 11478-81	16.4	561

87	Crystals as molecules: postsynthesis covalent functionalization of zeolitic imidazolate frameworks. *Journal of the American Chemical Society*, **2008**, 130, 12626-7	16.4	558
86	Covalent Organic Frameworks with High Charge Carrier Mobility. *Chemistry of Materials*, **2011**, 23, 4094-4097	9.6	524
85	Independent verification of the saturation hydrogen uptake in MOF-177 and establishment of a benchmark for hydrogen adsorption in metal-organic frameworks. *Journal of Materials Chemistry*, **2007**, 17, 3197		485
84	Control of vertex geometry, structure dimensionality, functionality, and pore metrics in the reticular synthesis of crystalline metal-organic frameworks and polyhedra. *Journal of the American Chemical Society*, **2008**, 130, 11650-61	16.4	467
83	Metal insertion in a microporous metal-organic framework lined with 2,2'-bipyridine. *Journal of the American Chemical Society*, **2010**, 132, 14382-4	16.4	463
82	A multiunit catalyst with synergistic stability and reactivity: a polyoxometalate-metal organic framework for aerobic decontamination. *Journal of the American Chemical Society*, **2011**, 133, 16839-46	16.4	437
81	Metal-organic frameworks from edible natural products. *Angewandte Chemie - International Edition*, **2010**, 49, 8630-4	16.4	426
80	New Porous Crystals of Extended Metal-Catecholates. *Chemistry of Materials*, **2012**, 24, 3511-3513	9.6	423
79	"Heterogeneity within order" in metal-organic frameworks. *Angewandte Chemie - International Edition*, **2015**, 54, 3417-30	16.4	390
78	High methane storage capacity in aluminum metal-organic frameworks. *Journal of the American Chemical Society*, **2014**, 136, 5271-4	16.4	349
77	Metal-organic frameworks with precisely designed interior for carbon dioxide capture in the presence of water. *Journal of the American Chemical Society*, **2014**, 136, 8863-6	16.4	317
76	Weaving of organic threads into a crystalline covalent organic framework. *Science*, **2016**, 351, 365-9	33.3	307
75	Synthesis and characterization of metal-organic framework-74 containing 2, 4, 6, 8, and 10 different metals. *Inorganic Chemistry*, **2014**, 53, 5881-3	5.1	303
74	Strong and reversible binding of carbon dioxide in a green metal-organic framework. *Journal of the American Chemical Society*, **2011**, 133, 15312-5	16.4	297
73	Introduction of functionality, selection of topology, and enhancement of gas adsorption in multivariate metal-organic framework-177. *Journal of the American Chemical Society*, **2015**, 137, 2641-50	16.4	285
72	Single-crystal structure of a covalent organic framework. *Journal of the American Chemical Society*, **2013**, 135, 16336-9	16.4	277
71	Isoreticular expansion of metal-organic frameworks with triangular and square building units and the lowest calculated density for porous crystals. *Inorganic Chemistry*, **2011**, 50, 9147-52	5.1	263
70	A combined experimental-computational investigation of carbon dioxide capture in a series of isoreticular zeolitic imidazolate frameworks. *Journal of the American Chemical Society*, **2010**, 132, 11006-8	16.4	263

69	Isoreticular metalation of metal-organic frameworks. *Journal of the American Chemical Society*, **2009**, 131, 9492-3	16.4	248
68	Three-Dimensional Metal-Catecholate Frameworks and Their Ultrahigh Proton Conductivity. *Journal of the American Chemical Society*, **2015**, 137, 15394-7	16.4	216
67	Nanoporous carbohydrate metal-organic frameworks. *Journal of the American Chemical Society*, **2012**, 134, 406-17	16.4	208
66	Photophysical pore control in an azobenzene-containing metal–organic framework. *Chemical Science*, **2013**, 4, 2858	9.4	208
65	High Methane Storage Working Capacity in Metal-Organic Frameworks with Acrylate Links. *Journal of the American Chemical Society*, **2016**, 138, 10244-51	16.4	201
64	A Titanium-Organic Framework as an Exemplar of Combining the Chemistry of Metal- and Covalent-Organic Frameworks. *Journal of the American Chemical Society*, **2016**, 138, 4330-3	16.4	196
63	Selective capture of carbon dioxide under humid conditions by hydrophobic chabazite-type zeolitic imidazolate frameworks. *Angewandte Chemie - International Edition*, **2014**, 53, 10645-8	16.4	196
62	A metal-organic framework with covalently bound organometallic complexes. *Journal of the American Chemical Society*, **2010**, 132, 9262-4	16.4	185
61	Porous, conductive metal-triazolates and their structural elucidation by the charge-flipping method. *Chemistry - A European Journal*, **2012**, 18, 10595-601	4.8	172
60	Adsorption mechanism and uptake of methane in covalent organic frameworks: theory and experiment. *Journal of Physical Chemistry A*, **2010**, 114, 10824-33	2.8	156
59	Hydrogen Storage in New Metal–Organic Frameworks. *Journal of Physical Chemistry C*, **2012**, 116, 13143-13151	3.8	154
58	Crystal structure, dissolution, and deposition of a 5 nm functionalized metal-organic great rhombicuboctahedron. *Journal of the American Chemical Society*, **2006**, 128, 8398-9	16.4	150
57	Seven Post-synthetic Covalent Reactions in Tandem Leading to Enzyme-like Complexity within Metal-Organic Framework Crystals. *Journal of the American Chemical Society*, **2016**, 138, 8352-5	16.4	146
56	Synthesis and structure of chemically stable metal-organic polyhedra. *Journal of the American Chemical Society*, **2009**, 131, 12532-3	16.4	135
55	Catalytic nickel nanoparticles embedded in a mesoporous metal-organic framework. *Chemical Communications*, **2010**, 46, 3086-8	5.8	134
54	Reversible interpenetration in a metal-organic framework triggered by ligand removal and addition. *Angewandte Chemie - International Edition*, **2012**, 51, 8791-5	16.4	113
53	Ring-opening reactions within porous metal-organic frameworks. *Inorganic Chemistry*, **2010**, 49, 6387-9	5.1	99
52	An assessment of strategies for the development of solid-state adsorbents for vehicular hydrogen storage. *Energy and Environmental Science*, **2018**, 11, 2784-2812	35.4	97

51	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	3.8	90
50	A Covalent Organic Framework that Exceeds the DOE 2015 Volumetric Target for H2 Uptake at 298 K. *Journal of Physical Chemistry Letters*, **2012**, 3, 2671-5	6.4	85
49	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, 191-6	11.5	82
48	Structure-based design of functional amyloid materials. *Journal of the American Chemical Society*, **2014**, 136, 18044-51	16.4	82
47	A Combined Experimental–Computational Investigation of Methane Adsorption and Selectivity in a Series of Isoreticular Zeolitic Imidazolate Frameworks. *Journal of Physical Chemistry C*, **2013**, 117, 10326-10335	3.8	72
46	„Heterogenität innerhalb von Ordnung“ in Metall-organischen Gerüsten. *Angewandte Chemie*, **2015**, 127, 3480-3494	3.6	67
45	High proton conductivity at low relative humidity in an anionic Fe-based metal–organic framework. *Journal of Materials Chemistry A*, **2016**, 4, 3638-3641	13	65
44	Low-energy regeneration and high productivity in a lanthanide-hexacarboxylate framework for high-pressure CO2-CH4-H2 separation. *Chemical Communications*, **2013**, 49, 6773-5	5.8	61
43	Azulene based metal-organic frameworks for strong adsorption of H2. *Chemical Communications*, **2010**, 46, 7981-3	5.8	55
42	Metal–Organic Frameworks from Edible Natural Products. *Angewandte Chemie*, **2010**, 122, 8812-8816	3.6	55
41	Electrochemical Properties of Nanostructured Amorphous, Sol-gel-Synthesized TiO[sub 2]/Acetylene Black Composite Electrodes. *Journal of the Electrochemical Society*, **2004**, 151, A527	3.9	53
40	Precision replication of hierarchical biological structures by metal oxides using a sonochemical method. *Langmuir*, **2008**, 24, 6292-9	4	47
39	Characterization of Adsorption Enthalpy of Novel Water-Stable Zeolites and Metal-Organic Frameworks. *Scientific Reports*, **2016**, 6, 19097	4.9	44
38	Selective Capture of Carbon Dioxide under Humid Conditions by Hydrophobic Chabazite-Type Zeolitic Imidazolate Frameworks. *Angewandte Chemie*, **2014**, 126, 10821-10824	3.6	40
37	Synthesis and Selective CO2 Capture Properties of a Series of Hexatopic Linker-Based Metal-Organic Frameworks. *Inorganic Chemistry*, **2015**, 54, 10065-72	5.1	39
36	Mixed-Metal Zeolitic Imidazolate Frameworks and their Selective Capture of Wet Carbon Dioxide over Methane. *Inorganic Chemistry*, **2016**, 55, 6201-7	5.1	38
35	Effective Inclusion of Chlorophyllous Pigments into Mesoporous Silica Modified with α,ω-Diols. *Chemistry of Materials*, **2001**, 13, 2722-2729	9.6	38
34	High Methanol Uptake Capacity in Two New Series of Metal–Organic Frameworks: Promising Materials for Adsorption-Driven Heat Pump Applications. *Chemistry of Materials*, **2016**, 28, 6243-6249	9.6	36

33	A mesoporous lanthanide–organic framework constructed from a dendritic hexacarboxylate with cages of 2.4 nm. *CrystEngComm*, **2013**, 15, 9328	3.3	33
32	Incorporation of active metal sites in MOFs via in situ generated ligand deficient metal-linker complexes. *Chemical Communications*, **2011**, 47, 11882-4	5.8	32
31	Immobilization of chlorophyll derivatives into mesoporous silica and energy transfer between the chromophores in mesopores. *Chemical Communications*, **2001**, 2002-3	5.8	27
30	Reversible Interpenetration in a Metal–Organic Framework Triggered by Ligand Removal and Addition. *Angewandte Chemie*, **2012**, 124, 8921-8925	3.6	25
29	Energy transfer between chlorophyll derivatives in silica mesostructured films and photocurrent generation. *Langmuir*, **2005**, 21, 3992-7	4	25
28	Iron detection and remediation with a functionalized porous polymer applied to environmental water samples. *Chemical Science*, **2019**, 10, 6651-6660	9.4	22
27	L-Aspartate links for stable sodium metal-organic frameworks. *Chemical Communications*, **2015**, 51, 17463-6	5.8	22
26	Negative cooperativity upon hydrogen bond-stabilized O adsorption in a redox-active metal-organic framework. *Nature Communications*, **2020**, 11, 3087	17.4	22
25	Synthesis and hydrogen adsorption properties of internally polarized 2,6-azulenedicarboxylate based metal–organic frameworks. *Journal of Materials Chemistry A*, **2014**, 2, 18823-18830	13	22
24	Ambient-Temperature Hydrogen Storage via Vanadium(II)-Dihydrogen Complexation in a Metal-Organic Framework. *Journal of the American Chemical Society*, **2021**, 143, 6248-6256	16.4	22
23	Effect of C132-Stereochemistry on the Molecular Properties of Chlorophylls. *Bulletin of the Chemical Society of Japan*, **2000**, 73, 1341-1351	5.1	21
22	Synthesis of Mesoporous Carbon-Containing Ferrocene Derivative and Its Electrochemical Property. *Chemistry Letters*, **2003**, 32, 132-133	1.7	19
21	Diastereoselective Self-Assemblies of Chlorophylls a and a′ *Journal of Physical Chemistry B*, **1999**, 103, 7398-7405	3.4	18
20	Supramolecular Structures of the Chlorophyll a′ Aggregate and the Origin of the Diastereoselective Separation of Chlorophyll a and a′ *Journal of Physical Chemistry B*, **1998**, 102, 7882-7889	3.4	16
19	The rotational dynamics of H adsorbed in covalent organic frameworks. *Physical Chemistry Chemical Physics*, **2017**, 19, 13075-13082	3.6	13
18	Hydrogen Adsorption in a Zeolitic Imidazolate Framework with lta Topology. *Journal of Physical Chemistry C*, **2018**, 122, 15435-15445	3.8	13
17	Response to Comment on "Water harvesting from air with metal-organic frameworks powered by natural sunlight". *Science*, **2017**, 358,	33.3	13
16	Porous Chiral Metal Organic Carboxylate Frameworks with a Double-interwoven SrSi2 Topology: M3(TTCA)2·6DMF·7H2O (TTCA = triphenylenetricarboxylate; M = Zn2+, Cd2+). *Chemistry Letters*, **2006**, 35, 1054-1055	1.7	12

15	Combining Linker Design and Linker-Exchange Strategies for the Synthesis of a Stable Large-Pore Zr-Based Metal-Organic Framework. *ACS Applied Materials & Interfaces*, **2018**, 10, 35462-35468	9.5	11
14	High H2 Sorption Energetics in Zeolitic Imidazolate Frameworks. *Journal of Physical Chemistry C*, **2017**, 121, 1723-1733	3.8	10
13	Adsorption of Zinc-Metallated Chlorophyllous Pigments on FSM-Type Mesoporous Silica. *Chemistry Letters*, **2000**, 29, 1256-1257	1.7	9
12	The Development of Global Science. *ACS Central Science*, **2015**, 1, 18-23	16.8	5
11	Determination of Enzyme Immobilized into Electropolymerized Polymer Films. *Chemistry Letters*, **2003**, 32, 176-177	1.7	5
10	Technoeconomic analysis of metal�organic frameworks for bulk hydrogen transportation. *Energy and Environmental Science*, **2021**, 14, 1083-1094	35.4	4
9	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	4.6	3
8	Response to Comment on "Water harvesting from air with metal-organic frameworks powered by natural sunlight". *Science*, **2017**, 358,	33.3	2
7	Cover Picture: Metal�Organic Frameworks from Edible Natural Products (Angew. Chem. Int. Ed. 46/2010). *Angewandte Chemie - International Edition*, **2010**, 49, 8535-8535	16.4	2
6	Synthesis and Characterization of Metal�Organic Frameworks **2018**, 17-81		2
5	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	1.8	1
4	Enhanced water stability and high CO storage capacity of a Lewis basic sites-containing zirconium metal-organic framework. *Dalton Transactions*, **2021**, 50, 16587-16592	4.3	1
3	Extended Linkers for Ultrahigh Surface Area Metal�Organic Frameworks **2016**, 271-307		1
2	R�cktitelbild: 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	3.6	
1	Titelbild: Metal�Organic Frameworks from Edible Natural Products (Angew. Chem. 46/2010). *Angewandte Chemie*, **2010**, 122, 8715-8715	3.6	