

Michael O'keeffe

List of Publications by Year in descending order

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all docs

139
docs citations

139
times ranked

40479
citing authors

#	ARTICLE	IF	CITATIONS
1	The Chemistry and Applications of Metal-Organic Frameworks. <i>Science</i> , 2013, 341, 1230444.	12.6	12,032
2	Reticular synthesis and the design of new materials. <i>Nature</i> , 2003, 423, 705-714.	27.8	8,374
3	Systematic Design of Pore Size and Functionality in Isorecticular MOFs and Their Application in Methane Storage. <i>Science</i> , 2002, 295, 469-472.	12.6	7,254
4	Exceptional chemical and thermal stability of zeolitic imidazolate frameworks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 10186-10191.	7.1	5,906
5	Porous, Crystalline, Covalent Organic Frameworks. <i>Science</i> , 2005, 310, 1166-1170.	12.6	5,574
6	Modular Chemistry: Secondary Building Units as a Basis for the Design of Highly Porous and Robust Metal-Organic Carboxylate Frameworks. <i>Accounts of Chemical Research</i> , 2001, 34, 319-330.	15.6	4,980
7	Hydrogen Storage in Microporous Metal-Organic Frameworks. <i>Science</i> , 2003, 300, 1127-1129.	12.6	4,435
8	High-Throughput Synthesis of Zeolitic Imidazolate Frameworks and Application to CO ₂ Capture. <i>Science</i> , 2008, 319, 939-943.	12.6	3,592
9	Ultrahigh Porosity in Metal-Organic Frameworks. <i>Science</i> , 2010, 329, 424-428.	12.6	3,306
10	A route to high surface area, porosity and inclusion of large molecules in crystals. <i>Nature</i> , 2004, 427, 523-527.	27.8	2,574
11	Synthesis, Structure, and Carbon Dioxide Capture Properties of Zeolitic Imidazolate Frameworks. <i>Accounts of Chemical Research</i> , 2010, 43, 58-67.	15.6	2,268
12	Secondary building units, nets and bonding in the chemistry of metal-organic frameworks. <i>Chemical Society Reviews</i> , 2009, 38, 1257.	38.1	2,243
13	Rod Packings and Metal-Organic Frameworks Constructed from Rod-Shaped Secondary Building Units. <i>Journal of the American Chemical Society</i> , 2005, 127, 1504-1518.	13.7	2,186
14	Reticular Chemistry: Occurrence and Taxonomy of Nets and Grammar for the Design of Frameworks. <i>Accounts of Chemical Research</i> , 2005, 38, 176-182.	15.6	2,072
15	Designed Synthesis of 3D Covalent Organic Frameworks. <i>Science</i> , 2007, 316, 268-272.	12.6	2,024
16	The Reticular Chemistry Structure Resource (RCSR) Database of, and Symbols for, Crystal Nets. <i>Accounts of Chemical Research</i> , 2008, 41, 1782-1789.	15.6	1,953
17	Deconstructing the Crystal Structures of Metal-Organic Frameworks and Related Materials into Their Underlying Nets. <i>Chemical Reviews</i> , 2012, 112, 675-702.	47.7	1,942
18	Large-Pore Apertures in a Series of Metal-Organic Frameworks. <i>Science</i> , 2012, 336, 1018-1023.	12.6	1,729

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19	Colossal cages in zeolitic imidazolate frameworks as selective carbon dioxide reservoirs. <i>Nature</i> , 2008, 453, 207-211.	27.8	1,452
20	A Crystalline Imine-Linked 3-D Porous Covalent Organic Framework. <i>Journal of the American Chemical Society</i> , 2009, 131, 4570-4571.	13.7	1,299
21	Control of Pore Size and Functionality in Isorecticular Zeolitic Imidazolate Frameworks and their Carbon Dioxide Selective Capture Properties. <i>Journal of the American Chemical Society</i> , 2009, 131, 3875-3877.	13.7	1,297
22	Topological Analysis of Metal-Organic Frameworks with Polytopic Linkers and/or Multiple Building Units and the Minimal Transitivity Principle. <i>Chemical Reviews</i> , 2014, 114, 1343-1370.	47.7	1,010
23	Zeolite A imidazolate frameworks. <i>Nature Materials</i> , 2007, 6, 501-506.	27.5	917
24	Reticular Chemistry of Metal-Organic Polyhedra. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 5136-5147.	13.8	849
25	Assembly of Metal-Organic Frameworks from Large Organic and Inorganic Secondary Building Units: New Examples and Simplifying Principles for Complex Structures. <i>Journal of the American Chemical Society</i> , 2001, 123, 8239-8247.	13.7	789
26	Structures of Metal-Organic Frameworks with Rod Secondary Building Units. <i>Chemical Reviews</i> , 2016, 116, 12466-12535.	47.7	732
27	Control of Vertex Geometry, Structure Dimensionality, Functionality, and Pore Metrics in the Reticular Synthesis of Crystalline Metal-Organic Frameworks and Polyhedra. <i>Journal of the American Chemical Society</i> , 2008, 130, 11650-11661.	13.7	498
28	Polyoxometalate-Based Metal Organic Frameworks (POMOFs): Structural Trends, Energetics, and High Electrocatalytic Efficiency for Hydrogen Evolution Reaction. <i>Journal of the American Chemical Society</i> , 2011, 133, 13363-13374.	13.7	490
29	UTSA-74: A MOF-74 Isomer with Two Accessible Binding Sites per Metal Center for Highly Selective Gas Separation. <i>Journal of the American Chemical Society</i> , 2016, 138, 5678-5684.	13.7	489
30	Multifunctional metal-organic frameworks constructed from meta-benzenedicarboxylate units. <i>Chemical Society Reviews</i> , 2014, 43, 5618-5656.	38.1	476
31	Coordination polymers, metal-organic frameworks and the need for terminology guidelines. <i>CrystEngComm</i> , 2012, 14, 3001.	2.6	464
32	Three-periodic nets and tilings: regular and quasiregular nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2003, 59, 22-27.	0.3	425
33	Design of MOFs and intellectual content in reticular chemistry: a personal view. <i>Chemical Society Reviews</i> , 2009, 38, 1215.	38.1	407
34	Cu ₂ [o-Br-C ₆ H ₃ (CO ₂) ₂] ₂ (H ₂ O) ₂ ·(DMF) ₈ (H ₂ O) ₂ : A Framework Deliberately Designed To Have the NbO Structure Type. <i>Journal of the American Chemical Society</i> , 2002, 124, 376-377.	13.7	383
35	Geometric requirements and examples of important structures in the assembly of square building blocks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 4900-4904.	7.1	353
36	A robust near infrared luminescent ytterbium metal-organic framework for sensing of small molecules. <i>Chemical Communications</i> , 2011, 47, 5551-5553.	4.1	345

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37	A Metal-Organic Framework with Optimized Open Metal Sites and Pore Spaces for High Methane Storage at Room Temperature. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 3178-3181.	13.8	340
38	Isorecticular Expansion of Metal-Organic Frameworks with Triangular and Square Building Units and the Lowest Calculated Density for Porous Crystals. <i>Inorganic Chemistry</i> , 2011, 50, 9147-9152.	4.0	322
39	Identification of and symmetry computation for crystal nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2003, 59, 351-360.	0.3	295
40	Infinite Secondary Building Units and Forbidden Catenation in Metal-Organic Frameworks The National Science Foundation support to M.O'K. (DMR-9804817) and O.M.Y. (DMR-9980469) is gratefully acknowledged.. <i>Angewandte Chemie - International Edition</i> , 2002, 41, 284.	13.8	293
41	A Rod-Packing Microporous Hydrogen-Bonded Organic Framework for Highly Selective Separation of C_2H_2/CO_2 at Room Temperature. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 574-577.	13.8	289
42	Bottom-up construction of a superstructure in a porous uranium-organic crystal. <i>Science</i> , 2017, 356, 624-627.	12.6	286
43	A mesoporous germanium oxide with crystalline pore walls and its chiral derivative. <i>Nature</i> , 2005, 437, 716-719.	27.8	283
44	Second-Order Nonlinear Optical Activity Induced by Ordered Dipolar Chromophores Confined in the Pores of an Anionic Metal-Organic Framework. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 10542-10545.	13.8	279
45	Advances in the chemistry of metal-organic frameworks. <i>CrystEngComm</i> , 2002, 4, 401-404.	2.6	271
46	Porous Metalloporphyrinic Frameworks Constructed from Metal 5,10,15,20-Tetrakis(3,5-bis(carboxyl)phenyl)porphyrin for Highly Efficient and Selective Catalytic Oxidation of Alkylbenzenes. <i>Journal of the American Chemical Society</i> , 2012, 134, 10638-10645.	13.7	265
47	Icosahedral packing of B12 icosahedra in boron suboxide (B ₆ O). <i>Nature</i> , 1998, 391, 376-378.	27.8	242
48	Taxonomy of periodic nets and the design of materials. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 1035-1043.	2.8	239
49	Porous, Conductive Metal-Triazolates and Their Structural Elucidation by the Charge-Flipping Method. <i>Chemistry - A European Journal</i> , 2012, 18, 10595-10601.	3.3	227
50	Three-periodic nets and tilings: semiregular nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2003, 59, 515-525.	0.3	222
51	Three-periodic nets and tilings: edge-transitive binodal structures. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2006, 62, 350-355.	0.3	206
52	Design of Frameworks with Mixed Triangular and Octahedral Building Blocks Exemplified by the Structure of [Zn ₄ O(TCA) ₂] Having the Pyrite Topology. <i>Angewandte Chemie - International Edition</i> , 2003, 42, 3907-3909.	13.8	200
53	A Metal-Organic Framework with a Hierarchical System of Pores and Tetrahedral Building Blocks. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 2528-2533.	13.8	196
54	Three-periodic nets and tilings: natural tilings for nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2007, 63, 418-425.	0.3	188

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55	A Flexible Germanate Structure Containing 24-Ring Channels and with Very Low Framework Density. <i>Journal of the American Chemical Society</i> , 2001, 123, 12706-12707.	13.7	163
56	Unprecedented Topological Complexity in a Metal-Organic Framework Constructed from Simple Building Units. <i>Journal of the American Chemical Society</i> , 2016, 138, 1970-1976.	13.7	155
57	Reticular Chemistry 3.2: Typical Minimal Edge-Transitive <i>Derived</i> and <i>Related</i> Nets for the Design and Synthesis of Metal-Organic Frameworks. <i>Chemical Reviews</i> , 2020, 120, 8039-8065.	47.7	149
58	A Short History of an Elusive Yet Ubiquitous Structure in Chemistry, Materials, and Mathematics. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 7996-8000.	13.8	147
59	High Separation Capacity and Selectivity of C ₂ Hydrocarbons over Methane within a Microporous Metal-Organic Framework at Room Temperature. <i>Chemistry - A European Journal</i> , 2012, 18, 1901-1904.	3.3	142
60	Integrating the Pillared-Layer Strategy and Pore-Space Partition Method to Construct Multicomponent MOFs for C ₂ H ₂ /CO ₂ Separation. <i>Journal of the American Chemical Society</i> , 2020, 142, 9258-9266.	13.7	141
61	A microporous lanthanide-tricarboxylate framework with the potential for purification of natural gas. <i>Chemical Communications</i> , 2012, 48, 10856.	4.1	134
62	Reversible Interpenetration in a Metal-Organic Framework Triggered by Ligand Removal and Addition. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 8791-8795.	13.8	129
63	Enriching the Reticular Chemistry Repertoire: Merged Nets Approach for the Rational Design of Intricate Mixed-Linker Metal-Organic Framework Platforms. <i>Journal of the American Chemical Society</i> , 2018, 140, 8858-8867.	13.7	129
64	The geometry of periodic knots, polycatenanes and weaving from a chemical perspective: a library for reticular chemistry. <i>Chemical Society Reviews</i> , 2018, 47, 4642-4664.	38.1	126
65	Mesoporous Cages in Chemically Robust MOFs Created by a Large Number of Vertices with Reduced Connectivity. <i>Journal of the American Chemical Society</i> , 2019, 141, 488-496.	13.7	126
66	A Robust and Biocompatible Bismuth Ellagate MOF Synthesized Under Green Ambient Conditions. <i>Journal of the American Chemical Society</i> , 2020, 142, 16795-16804.	13.7	115
67	Tertiary Building Units: Synthesis, Structure, and Porosity of a Metal-Organic Dendrimer Framework (MODF-1). <i>Journal of the American Chemical Society</i> , 2001, 123, 11482-11483.	13.7	113
68	A highly stable MOF with a rod SBU and a tetracarboxylate linker: unusual topology and CO ₂ adsorption behaviour under ambient conditions. <i>Chemical Communications</i> , 2014, 50, 4047-4049.	4.1	104
69	Applying the Power of Reticular Chemistry to Finding the Missing alb-MOF Platform Based on the (6,12)-Coordinated Edge-Transitive Net. <i>Journal of the American Chemical Society</i> , 2017, 139, 3265-3274.	13.7	104
70	The CdSO ₄ , rutile, cooperite and quartz dual nets: interpenetration and catenation. <i>Solid State Sciences</i> , 2003, 5, 73-78.	3.2	101
71	Three-periodic nets and tilings: minimal nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2004, 60, 517-520.	0.3	101
72	Programmable Topology in New Families of Heterobimetallic Metal-Organic Frameworks. <i>Journal of the American Chemical Society</i> , 2018, 140, 6194-6198.	13.7	78

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73	The Organic Secondary Building Unit: Strong Intermolecular π - π Interactions Define Topology in MIT-25, a Mesoporous MOF with Proton-Replete Channels. <i>Journal of the American Chemical Society</i> , 2017, 139, 3619-3622.	13.7	72
74	Low-energy regeneration and high productivity in a lanthanide- α -hexacarboxylate framework for high-pressure CO ₂ -CH ₄ -H ₂ separation. <i>Chemical Communications</i> , 2013, 49, 6773.	4.1	66
75	Three-periodic tilings and nets: face-transitive tilings and edge-transitive nets revisited. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2007, 63, 344-347.	0.3	65
76	A microporous metal-organic framework of a rare sty topology for high CH ₄ storage at room temperature. <i>Chemical Communications</i> , 2013, 49, 2043.	4.1	61
77	Metastable Interwoven Mesoporous Metal-Organic Frameworks. <i>Inorganic Chemistry</i> , 2013, 52, 11580-11584.	4.0	60
78	A Stable Microporous Mixed-Metal Metal-Organic Framework with Highly Active Cu ²⁺ Sites for Efficient Cross-Dehydrogenative Coupling Reactions. <i>Chemistry - A European Journal</i> , 2014, 20, 1447-1452.	3.3	55
79	Layered Structures Constructed from New Linkages of Ge ₇ (O,OH,F) ₁₉ Clusters. <i>Chemistry of Materials</i> , 2003, 15, 714-718.	6.7	50
80	New ice outdoes related nets in smallest-ring size. <i>Nature</i> , 1998, 392, 879-879.	27.8	45
81	Synthesis and Characterization of Zirconogermanates. <i>Inorganic Chemistry</i> , 2003, 42, 5954-5959.	4.0	43
82	Enriching the Reticular Chemistry Repertoire with Minimal Edge-Transitive Related Nets: Access to Highly Coordinated Metal-Organic Frameworks Based on Double Six-Membered Rings as Net-Coded Building Units. <i>Journal of the American Chemical Society</i> , 2019, 141, 20480-20489.	13.7	42
83	High-symmetry embeddings of interpenetrating periodic nets. Essential rings and patterns of catenation. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2015, 71, 82-91.	0.1	41
84	Isohedral simple tilings: binodal and by tiles with 16 faces. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2005, 61, 358-362.	0.3	40
85	An unprecedented (3,4,24)-connected heteropolyoxozincate organic framework as heterogeneous crystalline Lewis acid catalyst for biodiesel production. <i>Scientific Reports</i> , 2013, 3, 2616.	3.3	39
86	A mesoporous lanthanide-organic framework constructed from a dendritic hexacarboxylate with cages of 2.4 nm. <i>CrystEngComm</i> , 2013, 15, 9328.	2.6	36
87	Three-periodic nets and tilings: regular and related infinite polyhedra. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2008, 64, 425-429.	0.3	34
88	Minimal edge-transitive nets for the design and construction of metal-organic frameworks. <i>Faraday Discussions</i> , 2017, 201, 127-143.	3.2	32
89	Tiling by numbers. <i>Nature</i> , 1999, 400, 617-618.	27.8	29
90	ROD-8, a rod MOF with a pyrene-cored tetracarboxylate linker: framework disorder, derived nets and selective gas adsorption. <i>CrystEngComm</i> , 2014, 16, 6291-6295.	2.6	28

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91	Structures of Carbon Nanocrystals. <i>Chemistry of Materials</i> , 2004, 16, 4905-4911.	6.7	27
92	Edge-transitive lattice nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2009, 65, 360-363.	0.3	24
93	Network topology approach to new allotropes of the group 14 elements. <i>Zeitschrift Fur Kristallographie - Crystalline Materials</i> , 2013, 228, 343-346.	0.8	24
94	Aspects of crystal structure prediction: some successes and some difficulties. <i>Physical Chemistry Chemical Physics</i> , 2010, 12, 8580.	2.8	21
95	One-Step Synthesis and Structure of an Oligo(spiro-orthocarbonate). <i>Journal of the American Chemical Society</i> , 2002, 124, 4942-4943.	13.7	18
96	Simple tilings by polyhedra with five- and six-sided faces. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010, 66, 637-639.	0.3	18
97	Nets with collisions (unstable nets) and crystal chemistry. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2013, 69, 535-542.	0.3	18
98	[Cd ₁₆ In ₆₄ S ₁₃₄] ₄₄ ²⁺ : 31-Å... Tetrahedron with a Large Cavity. <i>Angewandte Chemie</i> , 2003, 115, 1863-1865.	2.0	17
99	Dense quasicrystalline tilings by squares and equilateral triangles. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2010, 66, 5-9.	0.3	16
100	Isogonal weavings on the sphere: knots, links, polycatenanes. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2020, 76, 611-621.	0.1	16
101	Crystallographic descriptions of regular 2-periodic weavings of threads, loops and nets. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2020, 76, 110-120.	0.1	16
102	Evolution of 14-Connected Zr ₆ Secondary Building Units through Postsynthetic Linker Incorporation. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 51945-51953.	8.0	15
103	Minimal nets and minimal minimal surfaces. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2013, 69, 483-489.	0.3	13
104	Edge-2-transitive trinodal polyhedra and 2-periodic tilings. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2017, 73, 227-230.	0.1	13
105	On a simple tiling of Deza and Shtogrin. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2006, 62, 228-229.	0.3	12
106	Madelung Constants for the C ₃ and C ₉ Structures. <i>Journal of Chemical Physics</i> , 1963, 38, 3035-3035.	3.0	11
107	Flipping Marvelous: New Zeolites by New Methods. <i>Angewandte Chemie - International Edition</i> , 2009, 48, 8182-8184.	13.8	11
108	A metal-organic framework with rod secondary building unit based on the Boerdijk-Coxeter helix. <i>Chemical Communications</i> , 2016, 52, 11543-11546.	4.1	11

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109	Some equivalent two-dimensional weavings at the molecular scale in 2D and 3D metal-organic frameworks. <i>CrystEngComm</i> , 2016, 18, 7607-7613.	2.6	11
110	Regular Figures, Minimal Transitivity, and Reticular Chemistry. <i>Israel Journal of Chemistry</i> , 2018, 58, 962-970.	2.3	9
111	On Borromean links and related structures. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2021, 77, 379-391.	0.1	9
112	Pentagonal helices in a periodic metal-organic framework. Crystals as computers for discovering structures of minimal transitivity. <i>Chemical Communications</i> , 2015, 51, 12228-12230.	4.1	8
113	Formation of a new archetypal Metal-Organic Framework from a simple monatomic liquid. <i>Journal of Chemical Physics</i> , 2014, 141, 234503.	3.0	6
114	Titelbild: [Cd ₁₆ In ₆₄ S ₁₃₄] ₄₄ : 31-Å... Tetrahedron with a Large Cavity (<i>Angew. Chem.</i> 16/2003). <i>Angewandte Chemie</i> , 2003, 115, 1817-1817.	2.0	4
115	Rigid, flexible and impossible zeolite and related structures. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20120034.	3.4	4
116	Isogonal piecewise linear embeddings of 1-periodic weaves and some related structures. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2021, 77, 130-137.	0.1	4
117	Isogonal non-crystallographic periodic graphs based on knotted sodalite cages. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2020, 76, 735-738.	0.1	3
118	Isogonal piecewise-linear embeddings of 1-periodic knots and links, and related 2-periodic chain-link and knitting patterns. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2022, 78, 234-241.	0.1	3
119	Optimal circular packing. <i>Nature</i> , 1991, 352, 27-27.	27.8	2
120	Cover Picture: [Cd ₁₆ In ₆₄ S ₁₃₄] ₄₄ : 31-Å... Tetrahedron with a Large Cavity (<i>Angew. Chem. Int. Ed.</i> 16/2003). <i>Angewandte Chemie - International Edition</i> , 2003, 42, 1775-1775.	13.8	2
121	Reticular Chemistry: Occurrence and Taxonomy of Nets and Grammar for the Design of Frameworks. <i>ChemInform</i> , 2005, 36, no.	0.0	2
122	2-Periodic self-dual tilings. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2017, 73, 14-18.	0.1	2
123	A Mesoporous Germanium Oxide with Crystalline Pore Walls and Its Chiral Derivative.. <i>ChemInform</i> , 2005, 36, no.	0.0	0