Jin-Chong Tan

List of Publications by Year
in descending order

118 papers	8,659 citations	41323 49 h-index	43868 91 g-index
131 all docs	131 docs citations	131 times ranked	9019 citing authors

#	Article	IF	Citations
1	Mechanical properties of hybrid inorganicâ€“organic framework materials: establishing fundamental structureâ€“property relationships. Chemical Society Reviews, 2011, 40, 1059.	18.7	637
2	Zeolitic imidazolate framework (ZIF-8) based polymer nanocomposite membranes for gas separation. Energy and Environmental Science, 2012, 5, 8359.	15.6	627
3	Chemical structure, network topology, and porosity effects on the mechanical properties of Zeolitic Imidazolate Frameworks. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9938-9943.	3.3	450
4	A solâ€“gel monolithic metalâ€“organic framework with enhanced methane uptake. Nature Materials, 2018, 17, 174-179.	13.3	386
5	Dynamic continuous recrystallization characteristics in two stage deformation of Mgâ€“3Alâ€“1Zn alloy sheet. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 339, 124-132.	2.6	377
6	Structure and Properties of an Amorphous Metal-Organic Framework. Physical Review Letters, 2010, 104, 115503.	2.9	246
7	Hybrid glasses from strong and fragile metal-organic framework liquids. Nature Communications, 2015, 6, 8079.	5.8	242
8	Exceptionally Low Shear Modulus in a Prototypical Imidazole-Based Metal-Organic Framework. Physical Review Letters, 2012, 108, 095502.	2.9	210
9	Identifying the Role of Terahertz Vibrations in Metal-Organic Frameworks: From Gate-Opening Phenomenon to Shear-Driven Structural Destabilization. Physical Review Letters, 2014, 113, 215502.	2.9	202
10	Reversible pressure-induced amorphization of a zeolitic imidazolate framework (ZIF-4). Chemical Communications, 2011, 47, 7983.	2.2	192
11	Facile Mechanosynthesis of Amorphous Zeolitic Imidazolate Frameworks. Journal of the American Chemical Society, 2011, 133, 14546-14549.	6.6	184
12	Ballâ€Millingâ€Induced Amorphization of Zeolitic Imidazolate Frameworks (ZIFs) for the Irreversible Trapping of Iodine. Chemistry - A European Journal, 2013, 19, 7049-7055.	1.7	171
13	Hybrid Nanosheets of an Inorganicâ€“Organic Framework Material: Facile Synthesis, Structure, and Elastic Properties. ACS Nano, 2012, 6, 615-621.	7.3	160
14	Electrochemical Film Deposition of the Zirconium Metalâ€“Organic Framework UiO-66 and Application in a Miniaturized Sorbent Trap. Chemistry of Materials, 2015, 27, 1801-1807.	3.2	159
15	Thermal Amorphization of Zeolitic Imidazolate Frameworks. Angewandte Chemie - International Edition, 2011, 50, 3067-3071.	7.2	146
16	Mechanical metamaterials with star-shaped pores exhibiting negative and zero Poisson's ratio. Materials and Design, 2018, 146, 28-37.	3.3	133
17	Mixed-matrix membranes of zeolitic imidazolate framework (ZIF-8)/Matrimid nanocomposite: Thermo-mechanical stability and viscoelasticity underpinning membrane separation performance. Journal of Membrane Science, 2016, 498, 276-290.	4.1	132
18	Mechanical Properties of Dense Zeolitic Imidazolate Frameworks (ZIFs): A Highâ€Pressure Xâ€ray Diffraction, Nanoindentation and Computational Study of the Zinc Framework Zn(Im)₂, and its Lithiumï£¿Boron Analogue, LiB(Im)₄. Chemistry - A European Journal, 2010, 16, 10684-10690.	1.7	119

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19	Kinetically controlled synthesis of two-dimensional Zr/Hf metalâ€“organic framework nanosheets via a modulated hydrothermal approach. Journal of Materials Chemistry A, 2017, 5, 8954-8963.	5.2	117
20	Improving the mechanical stability of zirconium-based metalâ€“organic frameworks by incorporation of acidic modulators. Journal of Materials Chemistry A, 2015, 3, 1737-1742.	5.2	116
21	Porous materials for thermal management under extreme conditions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2006, 364, 125-146.	1.6	110
22	Superplasticity and grain boundary sliding characteristics in two stage deformation of Mgâ€“3Alâ€“1Zn alloy sheet. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 339, 81-89.	2.6	106
23	Confinement of Luminescent Guests in Metalâ€“Organic Frameworks: Understanding Pathways from Synthesis and Multimodal Characterization to Potential Applications of LG@MOF Systems. Chemical Reviews, 2022, 122, 10438-10483.	23.0	106
24	Anisotropic mechanical properties of polymorphic hybrid inorganicâ€“organic framework materials with different dimensionalities. Acta Materialia, 2009, 57, 3481-3496.	3.8	103
25	Multifunctional Supramolecular Hybrid Materials Constructed from Hierarchical Selfâ€Ordering of In Situ Generated Metalâ€Organic Framework (MOF) Nanoparticles. Advanced Materials, 2015, 27, 4438-4446.	11.1	101
26	Optochemically Responsive 2D Nanosheets of a 3D Metalâ€“Organic Framework Material. Advanced Materials, 2017, 29, 1701463.	11.1	99
27	Discovering connections between terahertz vibrations and elasticity underpinning the collective dynamics of the HKUST-1 metalâ€“organic framework. CrystEngComm, 2016, 18, 4303-4312.	1.3	96
28	Quantum mechanical predictions to elucidate the anisotropic elastic properties of zeolitic imidazolate frameworks: ZIF-4 vs. ZIF-zni. CrystEngComm, 2015, 17, 375-382.	1.3	95
29	Nanoporous metal organic framework materials for smart applications. Materials Science and Technology, 2014, 30, 1598-1612.	0.8	87
30	Highly stretchable two-dimensional auxetic metamaterial sheets fabricated via direct-laser cutting. International Journal of Mechanical Sciences, 2020, 167, 105242.	3.6	81
31	Influence of ligand field stabilization energy on the elastic properties of multiferroic MOFs with the perovskite architecture. Dalton Transactions, 2012, 41, 3949.	1.6	79
32	Relating Mechanical Properties and Chemical Bonding in an Inorganicâ^'Organic Framework Material: A Singleâ^'Crystal Nanoindentation Study. Journal of the American Chemical Society, 2009, 131, 14252-14254.	6.6	77
33	The effect of pressure on Cu-btc: framework compression vs. guest inclusion. Chemical Communications, 2012, 48, 1535-1537.	2.2	73
34	A family of simple benzene 1,3,5-tricarboxamide (BTA) aromatic carboxylic acid hydrogels. Chemical Communications, 2013, 49, 4268-4270.	2.2	73
35	Mechanical and magnetic properties of metal fibre networks, with and without a polymeric matrix. Composites Science and Technology, 2005, 65, 2492-2499.	3.8	69
36	Dynamic molecular interactions between polyurethane and ZIF-8 in a polymer-MOF nanocomposite: Microstructural, thermo-mechanical and viscoelastic effects. Polymer, 2016, 97, 31-43.	1.8	69

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37	Metalâ€“Organic Frameworks and Hybrid Materials: From Fundamentals to Applications. CrystEngComm, 2015, 17, 197-198.	1.3	64
38	MOF-Based Polymeric Nanocomposite Films as Potential Materials for Drug Delivery Devices in Ocular Therapeutics. ACS Applied Materials & Interfaces, 2020, 12, 30189-30197.	4.0	62
39	Detecting Molecular Rotational Dynamics Complementing the Low-Frequency Terahertz Vibrations in a Zirconium-Based Metal-Organic Framework. Physical Review Letters, 2017, 118, 255502.	2.9	60
40	Explaining the mechanical mechanisms of zeolitic metalâ€“organic frameworks: revealing auxeticity and anomalous elasticity. Dalton Transactions, 2016, 45, 4154-4161.	1.6	59
41	Solâ€“Gel Synthesis of Robust Metalâ€“Organic Frameworks for Nanoparticle Encapsulation. Advanced Functional Materials, 2018, 28, 1705588.	7.8	58
42	Analysis of Tomography Images of Bonded Fibre Networks to Measure Distributions of Fibre Segment Length and Fibre Orientation. Advanced Engineering Materials, 2006, 8, 495-500.	1.6	57
43	Residual Stress Generation during Laser Cladding of Steel with a Particulate Metal Matrix Composite. Advanced Engineering Materials, 2006, 8, 619-624.	1.6	57
44	Superplasticity in a rolled Mgâ€“3Alâ€“1Zn alloy by two-stage deformation method. Scripta Materialia, 2002, 47, 101-106.	2.6	54
45	AFM Nanoindentation To Quantify Mechanical Properties of Nano- and Micron-Sized Crystals of a Metalâ€“Organic Framework Material. ACS Applied Materials & Interfaces, 2017, 9, 39839-39854.	4.0	54
46	Dye-Encapsulated Zeolitic Imidazolate Framework (ZIF-71) for Fluorochromic Sensing of Pressure, Temperature, and Volatile Solvents. ACS Applied Materials & Interfaces, 2020, 12, 37477-37488.	4.0	54
47	Mechanical properties of electrochemically synthesised metalâ€“organic framework thin films. Journal of Materials Chemistry C, 2013, 1, 7716.	2.7	53
48	Mechanical properties of zeolitic metalâ€“organic frameworks: mechanically flexible topologies and stabilization against structural collapse. CrystEngComm, 2015, 17, 286-289.	1.3	53
49	High-rate nanofluidic energy absorption in porous zeolitic frameworks. Nature Materials, 2021, 20, 1015-1023.	13.3	52
50	Heterometallic Inorganicâ^'Organic Frameworks of Sodiumâ^'Bismuth Benzenedicarboxylates. Crystal Growth and Design, 2010, 10, 1736-1741.	1.4	51
51	Layered inorganicâ€“organic frameworks based on the 2,2-dimethylsuccinate ligand: structural diversity and its effect on nanosheet exfoliation and magnetic properties. Dalton Transactions, 2012, 41, 8585.	1.6	50
52	Isomer-Directed Structural Diversity and Its Effect on the Nanosheet Exfoliation and Magnetic Properties of 2,3-Dimethylsuccinate Hybrid Frameworks. Inorganic Chemistry, 2012, 51, 11198-11209.	1.9	47
53	Capture and immobilisation of iodine (I₂) utilising polymer-based ZIF-8 nanocomposite membranes. Molecular Systems Design and Engineering, 2016, 1, 122-131.	1.7	47
54	Isoreticular zirconium-based metalâ€“organic frameworks: discovering mechanical trends and elastic anomalies controlling chemical structure stability. Physical Chemistry Chemical Physics, 2016, 18, 9079-9087.	1.3	46

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55	Mechanochromic MOF nanoplates: spatial molecular isolation of light-emitting guests in a sodalite framework structure. Nanoscale, 2018, 10, 3953-3960.	2.8	43
56	Elucidating the Drug Release from Metalâ€“Organic Framework Nanocomposites via In Situ Synchrotron Microspectroscopy and Theoretical Modeling. ACS Applied Materials & Interfaces, 2020, 12, 5147-5156.	4.0	43
57	Probing Dielectric Properties of Metalâ€“Organic Frameworks: MIL-53(Al) as a Model System for Theoretical Predictions and Experimental Measurements via Synchrotron Far- and Mid-Infrared Spectroscopy. Journal of Physical Chemistry Letters, 2017, 8, 5035-5040.	2.1	39
58	A steady-state Bi-substrate technique for measurement of the thermal conductivity of ceramic coatings. Surface and Coatings Technology, 2006, 201, 1414-1420.	2.2	38
59	Supramolecular isomerism of a metallocyclic dipyridyldiamide ligand metal halide system generating isostructural (Hg, Co and Zn) porous materials. Chemical Communications, 2012, 48, 2110.	2.2	38
60	Probing the Mechanical Properties of Hybrid Inorganic-Organic Frameworks: A Computational and Experimental Study. ChemPhysChem, 2010, 11, 2332-2336.	1.0	36
61	Photonic hybrid crystals constructed from in situ hostâ€“guest nanoconfinement of a light-emitting complex in metalâ€“organic framework pores. Nanoscale, 2016, 8, 6851-6859.	2.8	36
62	Supersonic cold spraying for zeolitic metalâ€“organic framework films. Chemical Engineering Journal, 2016, 295, 49-56.	6.6	36
63	Dielectric Properties of Zeolitic Imidazolate Frameworks in the Broad-Band Infrared Regime. Journal of Physical Chemistry Letters, 2018, 9, 2678-2684.	2.1	31
64	Electrochromic thin films of Zn-based MOF-74 nanocrystals facilely grown on flexible conducting substrates at room temperature. APL Materials, 2019, 7, .	2.2	31
65	Mechanical properties of the ferroelectric metal-free perovskite [MDABCO](NH₄)I₃. Chemical Communications, 2019, 55, 3911-3914.	2.2	31
66	Electroluminescent Guest@MOF Nanoparticles for Thin Film Optoelectronics and Solidâ€State Lighting. Advanced Optical Materials, 2020, 8, 2000670.	3.6	31
67	Tracking thermal-induced amorphization of a zeolitic imidazolate framework via synchrotron in situ far-infrared spectroscopy. Chemical Communications, 2017, 53, 7041-7044.	2.2	30
68	Dualâ€Guest Functionalized Zeolitic Imidazolate Frameworkâ€8 for 3D Printing White Lightâ€Emitting Composites. Advanced Optical Materials, 2020, 8, 1901912.	3.6	30
69	Alternative synthetic methodology for amide formation in the post-synthetic modification of Ti-MIL125-NH2. CrystEngComm, 2013, 15, 9368.	1.3	28
70	Highly luminescent silver-based MOFs: Scalable eco-friendly synthesis paving the way for photonics sensors and electroluminescent devices. Applied Materials Today, 2020, 21, 100817.	2.3	28
71	Ferrous Fibre Network Materials for Jet Noise Reduction in Aeroengines Part I: Acoustic Effects. Advanced Engineering Materials, 2008, 10, 192-200.	1.6	27
72	Guestâ€“host interactions of nanoconfined anti-cancer drug in metalâ€“organic framework exposed by terahertz dynamics. Chemical Communications, 2019, 55, 3868-3871.	2.2	27

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73	Micromechanical Behavior of Polycrystalline Metalâ€“Organic Framework Thin Films Synthesized by Electrochemical Reaction. Crystal Growth and Design, 2015, 15, 1991-1999.	1.4	26
74	Defect Engineering in Metalâ€“Organic Framework Nanocrystals: Implications for Mechanical Properties and Performance. ACS Applied Nano Materials, 2022, 5, 6398-6409.	2.4	26
75	Thermo-mechanical properties of mixed-matrix membranes encompassing zeolitic imidazolate framework-90 and polyvinylidine difluoride: ZIF-90/PVDF nanocomposites. APL Materials, 2017, 5, .	2.2	25
76	A mechano-responsive supramolecular metalâ€“organic framework (supraMOF) gel material rich in ZIF-8 nanoplates. Chemical Communications, 2017, 53, 8502-8505.	2.2	25
77	Near-Field Infrared Nanospectroscopy Reveals Guest Confinement in Metalâ€“Organic Framework Single Crystals. Nano Letters, 2020, 20, 7446-7454.	4.5	25
78	Structural diversity and luminescent properties of lanthanide 2,2- and 2,3-dimethylsuccinate frameworks. CrystEngComm, 2013, 15, 100-110.	1.3	24
79	Framework flexibility of ZIF-8 under liquid intrusion: discovering time-dependent mechanical response and structural relaxation. Physical Chemistry Chemical Physics, 2018, 20, 10108-10113.	1.3	24
80	Resistance welding of thin stainless steel sandwich sheets with fibrous metallic cores: Experimental and numerical studies. Science and Technology of Welding and Joining, 2007, 12, 490-504.	1.5	23
81	Multifaceted Study of the Interactions between CPO-27-Ni and Polyurethane and Their Impact on Nitric Oxide Release Performance. ACS Applied Materials & Interfaces, 2020, 12, 58263-58276.	4.0	23
82	Stacking Faults and Mechanical Behavior beyond the Elastic Limit of an Imidazole-Based Metal Organic Framework: ZIF-8. Journal of Physical Chemistry Letters, 2013, 4, 3377-3381.	2.1	21
83	Mechanochemical approaches towards the <i>in situ</i> confinement of 5-FU anti-cancer drug within MIL-100 (Fe) metalâ€“organic framework. CrystEngComm, 2020, 22, 4526-4530.	1.3	21
84	Ferrous Fibre Network Materials for Jet Noise Reduction in Aeroengines Part II: Thermoâ€Mechanical Stability. Advanced Engineering Materials, 2008, 10, 201-209.	1.6	20
85	Green Reconstruction of MIL-100 (Fe) in Water for High Crystallinity and Enhanced Guest Encapsulation. ACS Sustainable Chemistry and Engineering, 2020, 8, 8247-8255.	3.2	20
86	Facile and Fast Transformation of Nonluminescent to Highly Luminescent Metalâ€“Organic Frameworks: Acetone Sensing for Diabetes Diagnosis and Lead Capture from Polluted Water. ACS Applied Materials & Interfaces, 2021, 13, 7801-7811.	4.0	20
87	Tunable Fluorescein-Encapsulated Zeolitic Imidazolate Framework-8 Nanoparticles for Solid-State Lighting. ACS Applied Nano Materials, 2021, 4, 10321-10333.	2.4	20
88	Freestanding fiber mats of zeolitic imidazolate framework 7 via oneâ€step, scalable electrospinning. Journal of Applied Polymer Science, 2016, 133, .	1.3	19
89	Nanomechanical behavior and interfacial deformation beyond the elastic limit in 2D metalâ€“organic framework nanosheets. Nanoscale Advances, 2020, 2, 5181-5191.	2.2	18
90	Out-of-plane auxeticity in sintered fibre network mats. Scripta Materialia, 2015, 106, 30-33.	2.6	17

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91	Liquid Intrusion into Zeolitic Imidazolate Framework-7 Nanocrystals: Exposing the Roles of Phase Transition and Gate Opening to Enable Energy Absorption Applications. ACS Applied Materials & Interfaces, 2018, 10, 41831-41838.	4.0	16
92	OX-1 Metalâ€“Organic Framework Nanosheets as Robust Hosts for Highly Active Catalytic Palladium Species. ACS Sustainable Chemistry and Engineering, 2019, 7, 5875-5885.	3.2	15
93	2D auxetic metamaterials with tuneable micro-/nanoscale apertures. Applied Materials Today, 2020, 20, 100780.	2.3	15
94	Impact of Pressure and Temperature on the Broadband Dielectric Response of the HKUST-1 Metalâ€“Organic Framework. Journal of Physical Chemistry C, 2019, 123, 29427-29435.	1.5	14
95	Long-lived highly emissive MOFs as potential candidates for multiphotonic applications. Journal of Materials Chemistry C, 2021, 9, 15463-15469.	2.7	13
96	Mechanical properties and nanostructure of monolithic zeolitic imidazolate frameworks: a nanoindentation, nanospectroscopy, and finite element study. Materials Today Nano, 2022, 17, 100166.	2.3	13
97	Fine-scale tribological performance of zeolitic imidazolate framework (ZIF-8) based polymer nanocomposite membranes. APL Materials, 2014, 2, .	2.2	12
98	Guestâ€Tunable Dielectric Sensing Using a Single Crystal of HKUSTâ€1. Advanced Materials Interfaces, 2020, 7, 2000408.	1.9	12
99	Electrospun rhodamine@MOF/polymer luminescent fibers with a quantum yield of over 90%. IScience, 2021, 24, 103035.	1.9	11
100	Vibrational Modes and Terahertz Phenomena of the Large-Cage Zeolitic Imidazolate Framework-71. Journal of Physical Chemistry Letters, 2022, 13, 2838-2844.	2.1	11
101	Nanoconfinement of tetraphenylethylene in zeolitic metal-organic framework for turn-on mechanofluorochromic stress sensing. Applied Materials Today, 2022, 27, 101434.	2.3	11
102	Broadband Dielectric Behavior of an MIL-100 Metalâ€“Organic Framework as a Function of Structural Amorphization. ACS Applied Electronic Materials, 2021, 3, 1191-1198.	2.0	10
103	Facile patterning of electrospun polymer fibers enabled by electrostatic lensing interactions. APL Materials, 2016, 4, 086107.	2.2	9
104	Operando observation of the Taylor cone during electrospinning by multiple synchrotron X-ray techniques. Materials and Design, 2016, 110, 933-934.	3.3	9
105	Selfâ€Assembled, Fluorineâ€Rich Porous Organic Polymers: A Class of Mechanically Stiff and Hydrophobic Materials. Chemistry - A European Journal, 2018, 24, 11771-11778.	1.7	8
106	Influence of mechanical, thermal, and electrical perturbations on the dielectric behaviour of guest-encapsulated HKUST-1 crystals. Journal of Materials Chemistry C, 2020, 8, 12886-12892.	2.7	7
107	A Luminescent Guest@MOF Nanoconfined Composite System for Solid-State Lighting. Molecules, 2021, 26, 7583.	1.7	6
108	Tuning crystalline structure of zeolitic metalâ€“organic frameworks by supersonic spraying of precursor nanoparticle suspensions. Materials and Design, 2017, 114, 416-423.	3.3	4

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109	Large elastic recovery of zinc dicyanoaurate. APL Materials, 2017, 5, 066107.	2.2	4
110	Polymer nanocomposites functionalised with nanocrystals of zeolitic imidazolate frameworks as ethylene control agents. Materials Today Advances, 2019, 2, 100008.	2.5	3
111	Supramolecular Materials: Multifunctional Supramolecular Hybrid Materials Constructed from Hierarchical Selfâ€Ordering of In Situ Generated Metalâ€Organic Framework (MOF) Nanoparticles (Adv.) Tj ETQq1 1 0.784314 rgBT /Ov	11.1	2
112	A Method for Fabricating Stainless Steel Pellets with Openâ€Cell Porosity by Alkaline Leaching of Silica Template. Advanced Engineering Materials, 2016, 18, 1616-1625.	1.6	2
113	Probing the nano-scale architecture of diamond-patterned electrospun fibre mats by synchrotron small angle X-ray scattering. RSC Advances, 2017, 7, 8200-8204.	1.7	2
114	4.22 Metalâ€“Organic Framework Based Composites. , 2018, , 525-553.		1
115	Hybrid Materials: Optochemically Responsive 2D Nanosheets of a 3D Metalâ€“Organic Framework Material (Adv. Mater. 27/2017). Advanced Materials, 2017, 29, .	11.1	0
116	Metalâ€“Organic Frameworks: Guestâ€Tunable Dielectric Sensing Using a Single Crystal of HKUSTâ€1 (Adv.) Tj ETQq0 0 0 rgBT /Overloc	1.9	0
117	Electroluminescent Nanoparticles: Electroluminescent Guest@MOF Nanoparticles for Thin Film Optoelectronics and Solidâ€State Lighting (Advanced Optical Materials 16/2020). Advanced Optical Materials, 2020, 8, 2070066.	3.6	0
118	3Dâ€Printed Light Converter: Dualâ€Guest Functionalized Zeolitic Imidazolate Frameworkâ€8 for 3D Printing White Lightâ€Emitting Composites (Advanced Optical Materials 8/2020). Advanced Optical Materials, 2020, 8, 2070032.	3.6	0