Thomas D Bennett

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

123 papers	6,903 citations	44 h-index	81 g-index
151 ext. papers	8,533 ext. citations	9.9 avg, IF	6.36 L-index

#	Paper	IF	Citations
123	The effect of pressure on ZIF-8: increasing pore size with pressure and the formation of a high-pressure phase at 1.47 GPa. *Angewandte Chemie - International Edition*, **2009**, 48, 7087-9	16.4	363
122	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, 9938-43	11.5	362
121	Amorphous metal-organic frameworks. *Accounts of Chemical Research*, **2014**, 47, 1555-62	24.3	357
120	Interplay between defects, disorder and flexibility in metal-organic frameworks. *Nature Chemistry*, **2016**, 9, 11-16	17.6	256
119	Amorphous metal-organic frameworks for drug delivery. *Chemical Communications*, **2015**, 51, 13878-81	5.8	247
118	Negative linear compressibility of a metal-organic framework. *Journal of the American Chemical Society*, **2012**, 134, 11940-3	16.4	216
117	Liquid metal-organic frameworks. *Nature Materials*, **2017**, 16, 1149-1154	27	207
116	Structure and properties of an amorphous metal-organic framework. *Physical Review Letters*, **2010**, 104, 115503	7.4	198
115	Liquid, glass and amorphous solid states of coordination polymers and metalörganic frameworks. *Nature Reviews Materials*, **2018**, 3, 431-440	73.3	183
114	Exceptionally low shear modulus in a prototypical imidazole-based metal-organic framework. *Physical Review Letters*, **2012**, 108, 095502	7.4	176
113	Hybrid glasses from strong and fragile metal-organic framework liquids. *Nature Communications*, **2015**, 6, 8079	17.4	164
112	Melt-Quenched Glasses of Metal-Organic Frameworks. *Journal of the American Chemical Society*, **2016**, 138, 3484-92	16.4	161
111	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	7.4	159
110	Facile mechanosynthesis of amorphous zeolitic imidazolate frameworks. *Journal of the American Chemical Society*, **2011**, 133, 14546-9	16.4	155
109	Reversible pressure-induced amorphization of a zeolitic imidazolate framework (ZIF-4). *Chemical Communications*, **2011**, 47, 7983-5	5.8	152
108	Ball-milling-induced amorphization of zeolitic imidazolate frameworks (ZIFs) for the irreversible trapping of iodine. *Chemistry - A European Journal*, **2013**, 19, 7049-55	4.8	142
107	Defects and disorder in metal organic frameworks. *Dalton Transactions*, **2016**, 45, 4113-26	4.3	125

106	Gel-based morphological design of zirconium metal-organic frameworks. *Chemical Science*, **2017**, 8, 3939-3948	9.4	123
105	Thermal amorphization of zeolitic imidazolate frameworks. *Angewandte Chemie - International Edition*, **2011**, 50, 3067-71	16.4	120
104	A metal-organic framework with ultrahigh glass-forming ability. *Science Advances*, **2018**, 4, eaao6827	14.3	112
103	Amorphization of the prototypical zeolitic imidazolate framework ZIF-8 by ball-milling. *Chemical Communications*, **2012**, 48, 7805-7	5.8	111
102	Mechanical properties of dense zeolitic imidazolate frameworks (ZIFs): a high-pressure X-ray diffraction, nanoindentation and computational study of the zinc framework Zn(Im)2, and its lithium-boron analogue, LiB(Im)4. *Chemistry - A European Journal*, **2010**, 16, 10684-90	4.8	105
101	Mechanical Properties in Metal-Organic Frameworks: Emerging Opportunities and Challenges for Device Functionality and Technological Applications. *Advanced Materials*, **2018**, 30, e1704124	24	103
100	Thermochemistry of zeolitic imidazolate frameworks of varying porosity. *Journal of the American Chemical Society*, **2013**, 135, 598-601	16.4	97
99	Improving the mechanical stability of zirconium-based metal–organic frameworks by incorporation of acidic modulators. *Journal of Materials Chemistry A*, **2015**, 3, 1737-1742	13	96
98	Metal-organic framework glasses with permanent accessible porosity. *Nature Communications*, **2018**, 9, 5042	17.4	91
97	Improving the Acidic Stability of Zeolitic Imidazolate Frameworks by Biofunctional Molecules. *CheM* , **2019**, 5, 1597-1608	16.2	86
96	Metal-organic framework gels and monoliths. *Chemical Science*, **2020**, 11, 310-323	9.4	86
95	A Computational and Experimental Approach Linking Disorder, High-Pressure Behavior, and Mechanical Properties in UiO Frameworks. *Angewandte Chemie - International Edition*, **2016**, 55, 2401-5	16.4	80
94	Coordination cages as permanently porous ionic liquids. *Nature Chemistry*, **2020**, 12, 270-275	17.6	75
93	Pressure promoted low-temperature melting of metal-organic frameworks. *Nature Materials*, **2019**, 18, 370-376	27	74
92	The thermal stability of metal-organic frameworks. *Coordination Chemistry Reviews*, **2020**, 419, 213388	23.2	74
91	Mechanically and chemically robust ZIF-8 monoliths with high volumetric adsorption capacity. *Journal of Materials Chemistry A*, **2015**, 3, 2999-3005	13	71
90	Extreme Flexibility in a Zeolitic Imidazolate Framework: Porous to Dense Phase Transition in Desolvated ZIF-4. *Angewandte Chemie - International Edition*, **2015**, 54, 6447-51	16.4	66
89	Tackling the Defect Conundrum in UiO-66: A Mixed-Linker Approach to Engineering Missing Linker Defects. *Chemistry of Materials*, **2017**, 29, 10478-10486	9.6	66

88	Connecting defects and amorphization in UiO-66 and MIL-140 metal‐organic frameworks: a combined experimental and computational study. *Physical Chemistry Chemical Physics*, **2016**, 18, 2192-201	3.6	61
87	Topochemical conversion of a dense metal-organic framework from a crystalline insulator to an amorphous semiconductor. *Chemical Science*, **2015**, 6, 1465-1473	9.4	54
86	Mechanical properties of zeolitic metal‐organic frameworks: mechanically flexible topologies and stabilization against structural collapse. *CrystEngComm*, **2015**, 17, 286-289	3.3	50
85	Porosity in metal-organic framework glasses. *Chemical Communications*, **2016**, 52, 3750-3	5.8	50
84	Metal-organic framework crystal-glass composites. *Nature Communications*, **2019**, 10, 2580	17.4	49
83	Linking defects, hierarchical porosity generation and desalination performance in metal-organic frameworks. *Chemical Science*, **2018**, 9, 3508-3516	9.4	49
82	Liquid phase blending of metal-organic frameworks. *Nature Communications*, **2018**, 9, 2135	17.4	49
81	Crystallography of metal-organic frameworks. *IUCrJ*, **2014**, 1, 563-70	4.7	46
80	Mechanical Properties and Processing Techniques of Bulk Metal-Organic Framework Glasses. *Journal of the American Chemical Society*, **2019**, 141, 1027-1034	16.4	45
79	Novel metal-organic framework materials: blends, liquids, glasses and crystal-glass composites. *Chemical Communications*, **2019**, 55, 8705-8715	5.8	42
78	Detecting Molecular Rotational Dynamics Complementing the Low-Frequency Terahertz Vibrations in a Zirconium-Based Metal-Organic Framework. *Physical Review Letters*, **2017**, 118, 255502	7.4	42
77	Melt-Quenched Hybrid Glasses from Metal-Organic Frameworks. *Advanced Materials*, **2017**, 29, 1601705	24	40
76	Flux melting of metal-organic frameworks. *Chemical Science*, **2019**, 10, 3592-3601	9.4	37
75	Tuning the Swing Effect by Chemical Functionalization of Zeolitic Imidazolate Frameworks. *Journal of the American Chemical Society*, **2018**, 140, 382-387	16.4	37
74	Rich Polymorphism of a Metal-Organic Framework in Pressure-Temperature Space. *Journal of the American Chemical Society*, **2019**, 141, 9330-9337	16.4	35
73	Halogenated Metal-Organic Framework Glasses and Liquids. *Journal of the American Chemical Society*, **2020**, 142, 3880-3890	16.4	34
72	Optical properties of a melt-quenched metal-organic framework glass. *Optics Letters*, **2019**, 44, 1623-1625	3	33
71	Enabling Computational Design of ZIFs Using ReaxFF. *Journal of Physical Chemistry B*, **2018**, 122, 9616-9624	3.4	30

70	Liquid-phase sintering of lead halide perovskites and metal-organic framework glasses. *Science*, **2021**, 374, 621-625	33.3	29
69	Ultraselective Pebax Membranes Enabled by Templated Microphase Separation. *ACS Applied Materials & Interfaces*, **2018**, 10, 20006-20013	9.5	29
68	A comparison of the amorphization of zeolitic imidazolate frameworks (ZIFs) and aluminosilicate zeolites by ball-milling. *Dalton Transactions*, **2016**, 45, 4258-68	4.3	28
67	Thermal Amorphization of Zeolitic Imidazolate Frameworks. *Angewandte Chemie*, **2011**, 123, 3123-3127	3.6	28
66	Postsynthetic bromination of UiO-66 analogues: altering linker flexibility and mechanical compliance. *Dalton Transactions*, **2016**, 45, 4132-5	4.3	26
65	Templated growth of vertically aligned 2D metal-organic framework nanosheets. *Journal of Materials Chemistry A*, **2019**, 7, 5811-5818	13	24
64	Synthesis and Properties of a Compositional Series of MIL-53(Al) Metal-Organic Framework Crystal-Glass Composites. *Journal of the American Chemical Society*, **2019**, 141, 15641-15648	16.4	23
63	Mechanochemical synthesis of mixed metal, mixed linker, glass-forming metal-organic frameworks. *Green Chemistry*, **2020**, 22, 2505-2512	10	23
62	Pressure-induced oversaturation and phase transition in zeolitic imidazolate frameworks with remarkable mechanical stability. *Dalton Transactions*, **2015**, 44, 4498-503	4.3	22
61	Flexibility of zeolitic imidazolate framework structures studied by neutron total scattering and the reverse Monte Carlo method. *Journal of Physics Condensed Matter*, **2013**, 25, 395403	1.8	22
60	Tracking thermal-induced amorphization of a zeolitic imidazolate framework via synchrotron in situ far-infrared spectroscopy. *Chemical Communications*, **2017**, 53, 7041-7044	5.8	21
59	Dielectric Properties of Zeolitic Imidazolate Frameworks in the Broad-Band Infrared Regime. *Journal of Physical Chemistry Letters*, **2018**, 9, 2678-2684	6.4	21
58	Prediction of the Glass Transition Temperatures of Zeolitic Imidazolate Glasses through Topological Constraint Theory. *Journal of Physical Chemistry Letters*, **2018**, 9, 6985-6990	6.4	21
57	Amorphous-amorphous transition in a porous coordination polymer. *Chemical Communications*, **2017**, 53, 7060-7063	5.8	20
56	X-ray radiation-induced amorphization of metal-organic frameworks. *Physical Chemistry Chemical Physics*, **2019**, 21, 12389-12395	3.6	20
55	Extreme Flexibility in a Zeolitic Imidazolate Framework: Porous to Dense Phase Transition in Desolvated ZIF-4. *Angewandte Chemie*, **2015**, 127, 6547-6551	3.6	20
54	Combined experimental and computational NMR study of crystalline and amorphous zeolitic imidazolate frameworks. *Physical Chemistry Chemical Physics*, **2015**, 17, 25191-6	3.6	20
53	Interfacial engineering of a polymer-MOF composite by in situ vitrification. *Chemical Communications*, **2020**, 56, 3609-3612	5.8	20

52	A Computational and Experimental Approach Linking Disorder, High-Pressure Behavior, and Mechanical Properties in UiO Frameworks. *Angewandte Chemie*, **2016**, 128, 2447-2451	3.6	20
51	Manufacturing Macroporous Monoliths of Microporous Metal-Organic Frameworks. *ACS Applied Nano Materials*, **2018**, 1, 497-500	5.6	19
50	Melting of hybrid organic-inorganic perovskites. *Nature Chemistry*, **2021**, 13, 778-785	17.6	19
49	Thermodynamic features and enthalpy relaxation in a metal-organic framework glass. *Physical Chemistry Chemical Physics*, **2018**, 20, 18291-18296	3.6	19
48	The changing state of porous materials. *Nature Materials*, **2021**, 20, 1179-1187	27	18
47	Sodium Ion Conductivity in Superionic IL-Impregnated Metal-Organic Frameworks: Enhancing Stability Through Structural Disorder. *Scientific Reports*, **2020**, 10, 3532	4.9	17
46	Functional Group Mapping by Electron Beam Vibrational Spectroscopy from Nanoscale Volumes. *Nano Letters*, **2020**, 20, 1272-1279	11.5	17
45	Elucidating the Variable-Temperature Mechanical Properties of a Negative Thermal Expansion Metal-Organic Framework. *ACS Applied Materials & Interfaces*, **2018**, 10, 21079-21083	9.5	17
44	Relating structural disorder and melting in complex mixed ligand zeolitic imidazolate framework glasses. *Dalton Transactions*, **2020**, 49, 850-857	4.3	17
43	Diffraction study of pressure-amorphized ZrW2O8 using in situ and recovered samples. *Physical Review B*, **2011**, 83,	3.3	16
42	Structural investigations of amorphous metal-organic frameworks formed via different routes. *Physical Chemistry Chemical Physics*, **2018**, 20, 7857-7861	3.6	15
41	Subwavelength Spatially Resolved Coordination Chemistry of Metal-Organic Framework Glass Blends. *Journal of the American Chemical Society*, **2018**, 140, 17862-17866	16.4	14
40	Structural evolution in a melt-quenched zeolitic imidazolate framework glass during heat-treatment. *Chemical Communications*, **2019**, 55, 2521-2524	5.8	13
39	Template-based Synthesis of a Formate Metal-Organic Framework/Activated Carbon Fiber Composite for High-performance Methane Adsorptive Separation. *Chemistry - an Asian Journal*, **2016**, 11, 3014-3017	4.5	13
38	Ionic liquid facilitated melting of the metal-organic framework ZIF-8. *Nature Communications*, **2021**, 12, 5703	17.4	13
37	Investigating the melting behaviour of polymorphic zeolitic imidazolate frameworks. *CrystEngComm*, **2020**, 22, 3627-3637	3.3	11
36	Metal-organic framework and inorganic glass composites. *Nature Communications*, **2020**, 11, 5800	17.4	10
35	Mixed hierarchical local structure in a disordered metal-organic framework. *Nature Communications* , **2021**, 12, 2062	17.4	10

34	Identifying the liquid and glassy states of coordination polymers and metal-organic frameworks. *Faraday Discussions*, **2021**, 225, 210-225	3.6	10
33	Phase diagrams of liquid-phase mixing in multi-component metal-organic framework glasses constructed by quantitative elemental nano-tomography. *APL Materials*, **2019**, 7, 091111	5.7	9
32	Structure of Metal–Organic Framework Glasses by Ab Initio Molecular Dynamics. *Chemistry of Materials*, **2020**, 32, 8004-8011	9.6	9
31	Structural, electronic, and dielectric properties of a large random network model of amorphous zeolitic imidazolate frameworks and its analogues. *Journal of the American Ceramic Society*, **2019**, 102, 4602-4611	3.8	9
30	Comparison of the ionic conductivity properties of microporous and mesoporous MOFs infiltrated with a Na-ion containing IL mixture. *Dalton Transactions*, **2020**, 49, 15914-15924	4.3	8
29	Tuning the Morphological Appearance of Iron(III) Fumarate: Impact on Material Characteristics and Biocompatibility. *Chemistry of Materials*, **2020**, 32, 2253-2263	9.6	7
28	Polymorph formation for a zeolitic imidazolate framework composition - Zn(Im) 2. *Microporous and Mesoporous Materials*, **2018**, 265, 57-62	5.3	7
27	Stepwise collapse of a giant pore metal-organic framework. *Dalton Transactions*, **2021**, 50, 5011-5022	4.3	7
26	New directions in gas sorption and separation with MOFs: general discussion. *Faraday Discussions*, **2017**, 201, 175-194	3.6	6
25	Impact of 1-Methylimidazole on Crystal Formation, Phase Transitions, and Glass Formation in a Zeolitic Imidazolate Framework. *Crystal Growth and Design*, **2020**, 20, 6528-6534	3.5	6
24	Electronic, magnetic and photophysical properties of MOFs and COFs: general discussion. *Faraday Discussions*, **2017**, 201, 87-99	3.6	5
23	Mechanochemically Synthesised Flexible Electrodes Based on Bimetallic Metal-Organic Framework Glasses for the Oxygen Evolution Reaction. *Angewandte Chemie - International Edition*, **2021**,	16.4	5
22	A new route to porous metal–organic framework crystal–glass composites. *Chemical Science*, **2020**, 11, 9910-9918	9.4	5
21	Glassy behaviour of mechanically amorphised ZIF-62 isomorphs. *Chemical Communications*, **2021**, 57, 9272-9275	5.8	5
20	Neutron and X-ray total scattering study of hydrogen disorder in fully hydrated hydrogrossular, Ca3Al2(O4H4)3. *Physics and Chemistry of Minerals*, **2018**, 45, 333-342	1.6	4
19	Uncovering a reconstructive solid-solid phase transition in a metal-organic framework. *Royal Society Open Science*, **2017**, 4, 171355	3.3	4
18	Melt-quenched porous organic cage glasses. *Journal of Materials Chemistry A*, **2021**, 9, 19807-19816	13	4
17	Disorder classification of the vibrational spectra of modern glasses. *Physical Review B*, **2021**, 104,	3.3	3

16	Structural integrity, meltability, and variability of thermal properties in the mixed-linker zeolitic imidazolate framework ZIF-62. *Journal of Chemical Physics*, **2020**, 153, 204501	3.9	3
15	Electron Ptychography Using Fast Binary 4D STEM Data. *Microscopy and Microanalysis*, **2019**, 25, 1662-1663	0.5	2
14	Mapping Non-Crystalline Nanostructure in Beam Sensitive Systems With Low-dose Scanning Electron Pair Distribution Function Analysis. *Microscopy and Microanalysis*, **2019**, 25, 1636-1637	0.5	2
13	Gas adsorption in the topologically disordered Fe-BTC framework. *Journal of Materials Chemistry A*, **2021**, 9, 27019-27027	13	2
12	Principles of melting in hybrid organic-inorganic perovskite and polymorphic ABX structures.. *Chemical Science*, **2022**, 13, 2033-2042	9.4	2
11	Dicyanamide-perovskites at the edge of dense hybrid organic-inorganic materials. *Coordination Chemistry Reviews*, **2022**, 455, 214337	23.2	2
10	Hybrid Inorganic-Organic Perovskite Glasses		2
9	Mechanochemically Synthesised Flexible Electrodes based on Bimetallic Metal-organic Framework Glasses for the Oxygen Evolution Reaction. *Angewandte Chemie*,	3.6	2
8	Guest size limitation in metal-organic framework crystal-glass composites. *Journal of Materials Chemistry A*, **2021**, 9, 8386-8393	13	2
7	The reactivity of an inorganic glass melt with ZIF-8. *Dalton Transactions*, **2021**, 50, 3529-3535	4.3	1
6	Multivariate analysis of disorder in metal-organic frameworks.. *Nature Communications*, **2022**, 13, 2173	17.4	1
5	The Deformation of Short-Range Order Leading to Rearrangement of Topological Network Structure in Zeolitic Imidazolate Framework Glasses. *IScience*, **2022**, 104351	6.1	1
4	Properties of Single-Component Metal-Organic Framework Crystal-Glass Composites. *Chemistry - A European Journal*, **2021**, e202104026	4.8	0
3	Post-Synthetic Modification of a Metal-Organic Framework Glass.. *Chemistry of Materials*, **2022**, 34, 2187-2196	9.6	0
2	Local Coordination in Metal-Organic Frameworks Probed in the Vibrational and Optical Regime by EELS. *Microscopy and Microanalysis*, **2019**, 25, 606-607	0.5	
1	Highlights from the Faraday Discussion on New Directions in Porous Crystalline Materials, Edinburgh, UK, June 2017. *Chemical Communications*, **2017**, 53, 10750-10756	5.8	