Matthew R Ryder

List of Publications by Year
in descending order

54 papers	1,935 citations	279701 23 h-index	254106 43 g-index
61 all docs	61 docs citations	61 times ranked	2319 citing authors

#	Article	IF	Citations
1	Destruction of Metalâ€“Organic Frameworks: Positive and Negative Aspects of Stability and Lability. Chemical Reviews, 2020, 120, 13087-13133.	23.0	294
2	Hydrogen-Bonded Organic Frameworks: A Rising Class of Porous Molecular Materials. Accounts of Materials Research, 2020, 1, 77-87.	5.9	206
3	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
4	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
5	Interpenetration Isomerism in Triptyceneâ€Based Hydrogenâ€Bonded Organic Frameworks. Angewandte Chemie - International Edition, 2019, 58, 1664-1669.	7.2	93
6	Nanoporous metal organic framework materials for smart applications. Materials Science and Technology, 2014, 30, 1598-1612.	0.8	87
7	Highâ€Sensitivity Acoustic Molecular Sensors Based on Largeâ€Area, Sprayâ€Coated 2D Covalent Organic Frameworks. Advanced Materials, 2020, 32, e2004205.	11.1	67
8	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
9	Explaining the mechanical mechanisms of zeolitic metalâ€“organic frameworks: revealing auxeticity and anomalous elasticity. Dalton Transactions, 2016, 45, 4154-4161.	1.6	59
10	Recovering waste plastics using shape-selective nano-scale reactors as catalysts. Nature Sustainability, 2019, 2, 39-42.	11.5	53
11	Single-Crystal Polycationic Polymers Obtained by Single-Crystal-to-Single-Crystal Photopolymerization. Journal of the American Chemical Society, 2020, 142, 6180-6187.	6.6	50
12	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
13	Trends in the thermal stability of two-dimensional covalent organic frameworks. Faraday Discussions, 2021, 225, 226-240.	1.6	41
14	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
15	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
16	Understanding and Controlling the Dielectric Response of Metalâ€“Organic Frameworks. ChemPlusChem, 2018, 83, 308-316.	1.3	36
17	Assembly of a Porous Supramolecular Polyknot from Rigid Trigonal Prismatic Building Blocks. Journal of the American Chemical Society, 2019, 141, 12998-13002.	6.6	36
18	Dielectric Properties of Zeolitic Imidazolate Frameworks in the Broad-Band Infrared Regime. Journal of Physical Chemistry Letters, 2018, 9, 2678-2684.	2.1	31

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19	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
20	Buckling of Two-Dimensional Covalent Organic Frameworks under Thermal Stress. Industrial & Engineering Chemistry Research, 2019, 58, 9883-9887.	1.8	30
21	Interpenetration Isomerism in Triptyceneâ€Based Hydrogenâ€Bonded Organic Frameworks. Angewandte Chemie, 2019, 131, 1678-1683.	1.6	29
22	Pressure-driven mechanical anisotropy and destabilization in zeolitic imidazolate frameworks. Physical Review B, 2019, 99, .	1.1	27
23	Micromechanical Behavior of Polycrystalline Metalâ€“Organic Framework Thin Films Synthesized by Electrochemical Reaction. Crystal Growth and Design, 2015, 15, 1991-1999.	1.4	26
24	Evolution of porous materials from ancient remedies to modern frameworks. Communications Chemistry, 2021, 4, .	2.0	24
25	A Hierarchical Nanoporous Diamondoid Superstructure. CheM, 2019, 5, 2353-2364.	5.8	23
26	Quasiâ€Harmonic Lattice Dynamics of a Prototypical Metalâ€“Organic Framework. Advanced Theory and Simulations, 2019, 2, 1900093.	1.3	21
27	Understanding dynamic properties of materials using neutron spectroscopy and atomistic simulation. Journal of Physics Communications, 2020, 4, 072001.	0.5	21
28	Catalysis in MOFs: general discussion. Faraday Discussions, 2017, 201, 369-394.	1.6	14
29	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
30	Thermal decarboxylation for the generation of hierarchical porosity in isostructural metalâ€“organic frameworks containing open metal sites. Materials Advances, 2021, 2, 5487-5493.	2.6	14
31	Influence of Metal Identity on Light-Induced Switchable Adsorption in Azobenzene-Based Metalâ€“Organic Frameworks. ACS Applied Materials & Interfaces, 2022, 14, 11192-11199.	4.0	14
32	Communication: Remarkable electrophilicity of the oxalic acid monomer: An anion photoelectron spectroscopy and theoretical study. Journal of Chemical Physics, 2014, 140, 221103.	1.2	12
33	Intermolecular Interactions between Molecules in Various Conformational States: The Dimer of Oxalic Acid. Journal of Physical Chemistry A, 2014, 118, 7385-7391.	1.1	11
34	Light-induced switchable adsorption in azobenzene- and stilbene-based porous materials. Trends in Chemistry, 2022, 4, 32-47.	4.4	11
35	Metal oxide decorated porous carbons from controlled calcination of a metalâ€“organic framework. Nanoscale Advances, 2020, 2, 2758-2767.	2.2	10
36	Low rotational barriers for the most dynamically active methyl groups in the proposed antiviral drugs for treatment of SARS-CoV-2, apilimod and tetrandrine. Chemical Physics Letters, 2021, 777, 138727.	1.2	9

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37	Effect of Hydration on the Molecular Dynamics of Hydroxychloroquine Sulfate. ACS Omega, 2020, 5, 21231-21240.	1.6	8
38	Crystal structure evaluation: calculating relative stabilities and other criteria: general discussion. Faraday Discussions, 2018, 211, 325-381.	1.6	7
39	Hydration-Induced Disorder Lowers the Energy Barriers for Methyl Rotation in Drug Molecules. Journal of Physical Chemistry Letters, 2020, 11, 10256-10261.	2.1	7
40	Structure Evolution of Chemically Degraded ZIF-8. Journal of Physical Chemistry C, 2022, 126, 9736-9741.	1.5	7
41	Applications of crystal structure prediction â€“ inorganic and network structures: general discussion. Faraday Discussions, 2018, 211, 613-642.	1.6	6
42	Large elastic recovery of zinc dicyanoaurate. APL Materials, 2017, 5, 066107.	2.2	4
43	Electrophilicity of oxalic acid monomer is enhanced in the dimer by intermolecular proton transfer. Physical Chemistry Chemical Physics, 2017, 19, 29760-29766.	1.3	3
44	Order-disorder in room-temperature ionic liquids probed via methyl quantum tunneling. Structural Dynamics, 2021, 8, 024303.	0.9	3
45	Controlled Metal Oxide and Porous Carbon Templation Using Metal-Organic Frameworks. Crystal Growth and Design, 2021, 21, 4249-4258.	1.4	3
46	Detailed total scattering analysis of disorder in ZIF-8. Journal of Applied Crystallography, 2021, 54, 759-767.	1.9	3
47	Cyclophane-based two-dimensional polymer formed by an interfacial click reaction. Cell Reports Physical Science, 2022, 3, 100806.	2.8	3
48	Challenges for large scale simulation: general discussion. Faraday Discussions, 2020, 224, 309-332.	1.6	2
49	New approaches to study excited states in density functional theory: general discussion. Faraday Discussions, 2020, 224, 483-508.	1.6	2
50	Advanced characterisation techniques: multi-scale, in situ, and time-resolved: general discussion. Faraday Discussions, 2021, 225, 152-167.	1.6	2
51	New density-functional approximations and beyond: general discussion. Faraday Discussions, 2020, 224, 166-200.	1.6	1
52	Novel computational tools: general discussion. Faraday Discussions, 2021, 225, 341-357.	1.6	1
53	Computers in neutron science. Journal of Physics Communications, 2020, 4, 110401.	0.5	1
54	Towards complex systems and devices: general discussion. Faraday Discussions, 2021, 225, 431-441.	1.6	0