

Tom K Woo

List of Publications by Year in descending order

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47
papers

4,393
citations

249298

26
h-index

263392

45
g-index

49
all docs

49
docs citations

49
times ranked

5577
citing authors

#	ARTICLE	IF	CITATIONS
1	Direct Observation and Quantification of CO ₂ Binding Within an Amine-Functionalized Nanoporous Solid. <i>Science</i> , 2010, 330, 650-653.	6.0	860
2	Data-driven design of metal-organic frameworks for wet flue gas CO ₂ capture. <i>Nature</i> , 2019, 576, 253-256.	13.7	438
3	A scalable metal-organic framework as a durable physisorbent for carbon dioxide capture. <i>Science</i> , 2021, 374, 1464-1469.	6.0	308
4	Electrostatic Potential Derived Atomic Charges for Periodic Systems Using a Modified Error Functional. <i>Journal of Chemical Theory and Computation</i> , 2009, 5, 2866-2878.	2.3	281
5	Rapid and Accurate Machine Learning Recognition of High Performing Metal Organic Frameworks for CO ₂ Capture. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 3056-3060.	2.1	234
6	Large-Scale Quantitative Structure-Property Relationship (QSPR) Analysis of Methane Storage in Metal-Organic Frameworks. <i>Journal of Physical Chemistry C</i> , 2013, 117, 7681-7689.	1.5	174
7	Inverse design of nanoporous crystalline reticular materials with deep generative models. <i>Nature Machine Intelligence</i> , 2021, 3, 76-86.	8.3	172
8	Competition and Cooperativity in Carbon Dioxide Sorption by Amine-Functionalized Metal-Organic Frameworks. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 1826-1829.	7.2	131
9	A single-ligand ultra-microporous MOF for precombustion CO ₂ capture and hydrogen purification. <i>Science Advances</i> , 2015, 1, e1500421.	4.7	127
10	Low-Overpotential Electrocatalytic Water Splitting with Noble-Metal-Free Nanoparticles Supported in a sp ³ -Rich Flexible COF. <i>Advanced Energy Materials</i> , 2016, 6, 1600110.	10.2	121
11	Ultralow Parasitic Energy for Postcombustion CO ₂ Capture Realized in a Nickel Isonicotinate Metal-Organic Framework with Excellent Moisture Stability. <i>Journal of the American Chemical Society</i> , 2017, 139, 1734-1737.	6.6	121
12	Prediction of MOF Performance in Vacuum Swing Adsorption Systems for Postcombustion CO ₂ Capture Based on Integrated Molecular Simulations, Process Optimizations, and Machine Learning Models. <i>Environmental Science & Technology</i> , 2020, 54, 4536-4544.	4.6	117
13	Atomic Property Weighted Radial Distribution Functions Descriptors of Metal-Organic Frameworks for the Prediction of Gas Uptake Capacity. <i>Journal of Physical Chemistry C</i> , 2013, 117, 14095-14105.	1.5	113
14	Ethanol Electro-oxidation on Palladium Revisited Using Polarization Modulation Infrared Reflection Absorption Spectroscopy (PM-IRRAS) and Density Functional Theory (DFT): Why Is It Difficult To Break the C-C Bond?. <i>ACS Catalysis</i> , 2016, 6, 4894-4906.	5.5	109
15	A generalized method for constructing hypothetical nanoporous materials of any net topology from graph theory. <i>CrystEngComm</i> , 2016, 18, 3777-3792.	1.3	104
16	Robust Machine Learning Models for Predicting High CO ₂ Working Capacity and CO ₂ /H ₂ Selectivity of Gas Adsorption in Metal Organic Frameworks for Precombustion Carbon Capture. <i>Journal of Physical Chemistry C</i> , 2019, 123, 4133-4139.	1.5	102
17	Fast and Accurate Electrostatics in Metal Organic Frameworks with a Robust Charge Equilibration Parameterization for High-Throughput Virtual Screening of Gas Adsorption. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 3056-3061.	2.1	90
18	Phosphonate Monoesters as Carboxylate-like Linkers for Metal Organic Frameworks. <i>Journal of the American Chemical Society</i> , 2011, 133, 20048-20051.	6.6	85

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19	Grand-Canonical Monte Carlo and Molecular-Dynamics Simulations of Carbon-Dioxide and Carbon-Monoxide Adsorption in Zeolitic Imidazolate Framework Materials. <i>Journal of Physical Chemistry C</i> , 2010, 114, 2171-2178.	1.5	83
20	Materials design by evolutionary optimization of functional groups in metal-organic frameworks. <i>Science Advances</i> , 2016, 2, e1600954.	4.7	82
21	Quantitative Structure-Property Relationship Models for Recognizing Metal Organic Frameworks (MOFs) with High CO ₂ Working Capacity and CO ₂ /CH ₄ Selectivity for Methane Purification. <i>European Journal of Inorganic Chemistry</i> , 2016, 2016, 4505-4511.	1.0	68
22	Characterization of Zn-Containing Metal-Organic Frameworks by Solid-State ⁶⁷ Zn NMR Spectroscopy and Computational Modeling. <i>Chemistry - A European Journal</i> , 2012, 18, 12251-12259.	1.7	66
23	Stepwise crystallographic visualization of dynamic guest binding in a nanoporous framework. <i>Chemical Science</i> , 2017, 8, 3171-3177.	3.7	66
24	High-Performing Deep Learning Regression Models for Predicting Low-Pressure CO ₂ Adsorption Properties of Metal-Organic Frameworks. <i>Journal of Physical Chemistry C</i> , 2020, 124, 27996-28005.	1.5	39
25	Evaluation of carbon nanoscroll materials for post-combustion CO ₂ capture. <i>Carbon</i> , 2016, 101, 218-225.	5.4	31
26	Interfacial properties of hydrocarbon/water systems predicted by molecular dynamic simulations. <i>Journal of Chemical Physics</i> , 2019, 150, 114703.	1.2	29
27	A Computational Experiment of the Endo versus Exo Preference in a Diels-Alder Reaction. <i>Journal of Chemical Education</i> , 2009, 86, 199.	1.1	22
28	Molecular dynamics simulations of interfacial properties of the CO ₂ -water and CO ₂ -CH ₄ -water systems. <i>Journal of Chemical Physics</i> , 2020, 153, 044701.	1.2	18
29	Computational and Experimental Assessment of CO ₂ Uptake in Phosphonate Monoester Metal-Organic Frameworks. <i>Chemistry of Materials</i> , 2017, 29, 10469-10477.	3.2	17
30	Imparting gas selective and pressure dependent porosity into a non-porous solid <i>via</i> coordination flexibility. <i>Materials Horizons</i> , 2019, 6, 1883-1891.	6.4	17
31	Molecular dynamics simulation of halogen bonding in Cl ₂ , BrCl, and mixed Cl ₂ /Br ₂ clathrate hydrates. <i>Canadian Journal of Chemistry</i> , 2015, 93, 864-873.	0.6	15
32	Intercalation of Coordinatively Unsaturated Fe ^{III} Ion within Interpenetrated Metal-Organic Framework MOF-5. <i>Chemistry - A European Journal</i> , 2016, 22, 7711-7715.	1.7	15
33	Genetic algorithm and first-principles DFT study of the high-pressure molecular phase of nitrogen. <i>Physical Review B</i> , 2009, 80, .	1.1	13
34	Molecular simulations and density functional theory calculations of bromine in clathrate hydrate phases. <i>Journal of Chemical Physics</i> , 2016, 144, 044501.	1.2	13
35	A New Split Charge Equilibration Model and REPEAT Electrostatic Potential Fitted Charges for Periodic Frameworks with a Net Charge. <i>Journal of Chemical Theory and Computation</i> , 2017, 13, 2858-2869.	2.3	12
36	Split-Charge Equilibration Parameters for Generating Rapid Partial Atomic Charges in Metal-Organic Frameworks and Porous Polymer Networks for High-Throughput Screening. <i>Journal of Physical Chemistry C</i> , 2017, 121, 903-910.	1.5	12

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37	Metastable polymeric nitrogen nanotube from a zigzag sheet phase and first-principles calculations. <i>Physical Review B</i> , 2010, 82, .	1.1	11
38	Design Strategy for the Controlled Generation of Cationic Frameworks and Ensuing Anion-Exchange Capabilities. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 3181-3188.	4.0	11
39	Idealized Carbon-Based Materials Exhibiting Record Deliverable Capacities for Vehicular Methane Storage. <i>Journal of Physical Chemistry C</i> , 2019, 123, 1050-1058.	1.5	11
40	An Ultra-Microporous Metal-Organic Framework with Exceptional Xe Capacity. <i>Chemistry - A European Journal</i> , 2020, 26, 12544-12548.	1.7	10
41	Molecular Dynamic Simulations of Clathrate Hydrate Anomalous Preservation: The Effect of Coating Clathrate Hydrate Phases. <i>Journal of Physical Chemistry C</i> , 2019, 123, 28715-28725.	1.5	9
42	Computational prediction of temperature dependence of ¹³ C NMR lineshapes of planar molecules in structure I clathrate hydrates. <i>Journal of the Iranian Chemical Society</i> , 2013, 10, 659-667.	1.2	2
43	Bond Type Restricted Property Weighted Radial Distribution Functions for Accurate Machine Learning Prediction of Atomization Energies. <i>Journal of Chemical Theory and Computation</i> , 2018, 14, 5229-5237.	2.3	2
44	How Do We Simulate Things at the Scale of Molecules and Electrons? An Introduction to the Technology and HPC Aspects of Computational Chemistry. 2008 22nd International Symposium on High Performance Computing Systems and Applications, 2008, .	0.0	0
45	Back Cover: Characterization of Zn-Containing Metal-Organic Frameworks by Solid-State ⁶⁷ Zn NMR Spectroscopy and Computational Modeling (<i>Chem. Eur. J.</i> 39/2012). <i>Chemistry - A European Journal</i> , 2012, 18, 12532-12532.	1.7	0
46	Ab initio based large-scale screening of hypothetical MOFs for carbon capture application. <i>Materials Research Society Symposia Proceedings</i> , 2013, 1523, 0301.	0.1	0
47	MOFIA: a chemoinformatic webserver for the prediction of CO ₂ adsorption in metal organic frameworks (MOF). <i>Materials Research Society Symposia Proceedings</i> , 2013, 1523, 801.	0.1	0