

# Jihan Kim

## 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.

79  
papers

3,804  
citations

26  
h-index

61  
g-index

85  
ext. papers

4,828  
ext. citations

10.3  
avg, IF

5.78  
L-index

#	Paper	IF	Citations
79	Metallic TiCT MXene Gas Sensors with Ultrahigh Signal-to-Noise Ratio. <i>ACS Nano</i> , <b>2018</b> , 12, 986-993	16.7	664
78	In silico screening of carbon-capture materials. <i>Nature Materials</i> , <b>2012</b> , 11, 633-41	27	433
77	Highly Enhanced Gas Adsorption Properties in Vertically Aligned MoS <sub>2</sub> Layers. <i>ACS Nano</i> , <b>2015</b> , 9, 9314-216.7	16.7	310
76	Superior Chemical Sensing Performance of Black Phosphorus: Comparison with MoS <sub>2</sub> and Graphene. <i>Advanced Materials</i> , <b>2016</b> , 28, 7020-8	24	267
75	The materials genome in action: identifying the performance limits for methane storage. <i>Energy and Environmental Science</i> , <b>2015</b> , 8, 1190-1199	35.4	263
74	Ab initio carbon capture in open-site metal-organic frameworks. <i>Nature Chemistry</i> , <b>2012</b> , 4, 810-6	17.6	263
73	Materials Genome in Action: Identifying the Performance Limits of Physical Hydrogen Storage. <i>Chemistry of Materials</i> , <b>2017</b> , 29, 2844-2854	9.6	123
72	Predicting large CO <sub>2</sub> adsorption in aluminosilicate zeolites for postcombustion carbon dioxide capture. <i>Journal of the American Chemical Society</i> , <b>2012</b> , 134, 18940-3	16.4	114
71	Highly durable metal ensemble catalysts with full dispersion for automotive applications beyond single-atom catalysts. <i>Nature Catalysis</i> , <b>2020</b> , 3, 368-375	36.5	87
70	New materials for methane capture from dilute and medium-concentration sources. <i>Nature Communications</i> , <b>2013</b> , 4, 1694	17.4	84
69	Inverse design of porous materials using artificial neural networks. <i>Science Advances</i> , <b>2020</b> , 6, eaax9324	14.3	79
68	Optimizing nanoporous materials for gas storage. <i>Physical Chemistry Chemical Physics</i> , <b>2014</b> , 16, 5499-5136	13.6	67
67	Shift of the Branching Point of the Side-Chain in Naphthalenediimide (NDI)-Based Polymer for Enhanced Electron Mobility and All-Polymer Solar Cell Performance. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1803613	15.6	58
66	Energy-efficient CO hydrogenation with fast response using photoexcitation of CO adsorbed on metal catalysts. <i>Nature Communications</i> , <b>2018</b> , 9, 3027	17.4	54
65	High-Throughput Characterization of Porous Materials Using Graphics Processing Units. <i>Journal of Chemical Theory and Computation</i> , <b>2012</b> , 8, 1684-93	6.4	53
64	Applications of machine learning in metal-organic frameworks. <i>Coordination Chemistry Reviews</i> , <b>2020</b> , 423, 213487	23.2	51
63	User-friendly graphical user interface software for ideal adsorbed solution theory calculations. <i>Korean Journal of Chemical Engineering</i> , <b>2018</b> , 35, 214-221	2.8	50

62	Self-operating transpiration-driven electrokinetic power generator with an artificial hydrological cycle. <i>Energy and Environmental Science</i> , <b>2020</b> , 13, 527-534	35.4	45
61	Computer-aided discovery of connected metal-organic frameworks. <i>Nature Communications</i> , <b>2019</b> , 10, 3620	17.4	38
60	High-throughput computational screening of nanoporous adsorbents for CO <sub>2</sub> capture from natural gas. <i>Molecular Systems Design and Engineering</i> , <b>2016</b> , 1, 175-188	4.6	37
59	Excavating hidden adsorption sites in metal-organic frameworks using rational defect engineering. <i>Nature Communications</i> , <b>2017</b> , 8, 1539	17.4	36
58	Surface Plasmon Aided Ethanol Dehydrogenation Using Ag/Ni Binary Nanoparticles. <i>ACS Catalysis</i> , <b>2017</b> , 7, 2294-2302	13.1	32
57	Efficient Monte Carlo Simulations of Gas Molecules Inside Porous Materials. <i>Journal of Chemical Theory and Computation</i> , <b>2012</b> , 8, 2336-43	6.4	31
56	Edge-Functionalized Graphene Nanoribbon Chemical Sensor: Comparison with Carbon Nanotube and Graphene. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 42905-42914	9.5	28
55	Understanding the Mechanisms of CO <sub>2</sub> Adsorption Enhancement in Pure Silica Zeolites under Humid Conditions. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 23500-23510	3.8	27
54	Text Mining Metal-Organic Framework Papers. <i>Journal of Chemical Information and Modeling</i> , <b>2018</b> , 58, 244-251	6.1	26
53	Size-Matching Ligand Insertion in MOF-74 for Enhanced CO <sub>2</sub> Capture under Humid Conditions. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 24444-24451	3.8	24
52	Evaluating mixture adsorption models using molecular simulation. <i>AIChE Journal</i> , <b>2013</b> , 59, 3054-3064	3.6	23
51	Molecular Monte Carlo Simulations Using Graphics Processing Units: To Waste Recycle or Not?. <i>Journal of Chemical Theory and Computation</i> , <b>2011</b> , 7, 3208-22	6.4	22
50	Polyelemental Nanolithography via Plasma Ion Bombardment: From Fabrication to Superior H Sensing Application. <i>Advanced Materials</i> , <b>2019</b> , 31, e1805343	24	22
49	Efficient Determination of Accurate Force Fields for Porous Materials Using ab Initio Total Energy Calculations. <i>Journal of Physical Chemistry C</i> , <b>2014</b> , 118, 2693-2701	3.8	21
48	Computational structure characterization tools for the era of material informatics. <i>Chemical Engineering Science</i> , <b>2015</b> , 121, 322-330	4.4	21
47	Molybdenum carbide chemical sensors with ultrahigh signal-to-noise ratios and ambient stability. <i>Journal of Materials Chemistry A</i> , <b>2018</b> , 6, 23408-23416	13	21
46	Computational Screening of Trillions of Metal-Organic Frameworks for High-Performance Methane Storage. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2021</b> , 13, 23647-23654	9.5	20
45	Predicting performance limits of methane gas storage in zeolites with an artificial neural network. <i>Journal of Materials Chemistry A</i> , <b>2019</b> , 7, 2709-2716	13	19

44	Modeling adsorption properties of structurally deformed metal-organic frameworks using structure-property map. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2017</b> , 114, 7923-7928	11.5	19
43	Understanding gas adsorption in MOF-5/graphene oxide composite materials. <i>Physical Chemistry Chemical Physics</i> , <b>2017</b> , 19, 11639-11644	3.6	18
42	Finding Hidden Signals in Chemical Sensors Using Deep Learning. <i>Analytical Chemistry</i> , <b>2020</b> , 92, 6529-6538	3.8	18
41	2D Materials Decorated with Ultrathin and Porous Graphene Oxide for High Stability and Selective Surface Activity. <i>Advanced Materials</i> , <b>2020</b> , 32, e2002723	24	18
40	Polyelemental Nanoparticles as Catalysts for a Li-O Battery. <i>ACS Nano</i> , <b>2021</b> , 15, 4235-4244	16.7	18
39	Photochemically Induced Water Harvesting in Metal-Organic Framework. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2019</b> , 7, 15854-15859	8.3	15
38	Ligand Insertion in MOF-74 as Effective Design for Oxidation of Ethane to Ethanol. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 23078-23083	3.8	14
37	Computational prediction of hetero-interpenetration in metal-organic frameworks. <i>Chemical Communications</i> , <b>2017</b> , 53, 1953-1956	5.8	12
36	Computational prediction of high methane storage capacity in V-MOF-74. <i>Physical Chemistry Chemical Physics</i> , <b>2017</b> , 19, 21132-21139	3.6	12
35	Transferability of CO <sub>2</sub> Force Fields for Prediction of Adsorption Properties in All-Silica Zeolites. <i>Journal of Physical Chemistry C</i> , <b>2018</b> , 122, 10892-10903	3.8	11
34	Computational Design of a Photoresponsive Metal-Organic Framework for Post Combustion Carbon Capture. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 13162-13167	3.8	10
33	Tuning the electrode work function via a vapor-phase deposited ultrathin polymer film. <i>Journal of Materials Chemistry C</i> , <b>2016</b> , 4, 831-839	7.1	9
32	Rational Design of Aminopolymer for Selective Discrimination of Acidic Air Pollutants. <i>ACS Sensors</i> , <b>2018</b> , 3, 1329-1337	9.2	9
31	Predicting low-k zeolite materials. <i>Journal of Materials Chemistry C</i> , <b>2014</b> , 2, 2298-2300	7.1	8
30	Thermodynamics of gas adsorption in MOFs using Ab Initio calculations. <i>International Journal of Quantum Chemistry</i> , <b>2016</b> , 116, 569-572	2.1	8
29	Formation of toroidal LiO in non-aqueous Li-O batteries with MoCT MXene/CNT composite.. <i>RSC Advances</i> , <b>2019</b> , 9, 41120-41125	3.7	8
28	Understanding Reaction Pathways in High Dielectric Electrolytes Using EMoC as a Catalyst for Li-CO Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 32633-32641	9.5	7
27	Void Space versus Surface Functionalization for Proton Conduction in Metal-Organic Frameworks. <i>Angewandte Chemie - International Edition</i> , <b>2021</b> , 60, 20173-20177	16.4	7

26	Influence of graphene thickness and grain boundaries on MoS wrinkle nanostructures. <i>Physical Chemistry Chemical Physics</i> , <b>2018</b> , 20, 17000-17008	3.6	7
25	Rational modifications of PCN-700 to induce electrical conductivity: a computational study. <i>Dalton Transactions</i> , <b>2020</b> , 49, 102-113	4.3	6
24	Isotherm parameter library and evaluation software for CO2 capture adsorbents. <i>Computers and Chemical Engineering</i> , <b>2020</b> , 143, 107105	4	6
23	Ultrathin Magnesium Nanosheet for Improved Hydrogen Storage with Fishbone Shaped One-Dimensional Carbon Matrix. <i>ACS Applied Energy Materials</i> , <b>2020</b> , 3, 8143-8149	6.1	6
22	Probing gas adsorption in MOFs using an efficient ab initio widom insertion Monte Carlo method. <i>Journal of Computational Chemistry</i> , <b>2016</b> , 37, 2808-2815	3.5	6
21	Confinement of Ultrasmall Bimetallic Nanoparticles in Conductive Metal-Organic Frameworks via Site-Specific Nucleation. <i>Advanced Materials</i> , <b>2021</b> , 33, e2101216	24	6
20	Computational Analysis of Linker Defective Metal-Organic Frameworks for Membrane Separation Applications. <i>Langmuir</i> , <b>2019</b> , 35, 3917-3924	4	5
19	Computational Identification of Connected MOF@COF Materials. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 5897-5903	3.8	4
18	Reverse shape selectivity of hexane isomer in ligand inserted MOF-74.. <i>RSC Advances</i> , <b>2020</b> , 10, 22601-22605	3.9	3
17	Gas Adsorption Enhancement in Partially Amorphized Metal-Organic Frameworks. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 4509-4518	3.8	3
16	Oxide/ZIF-8 Hybrid Nanofiber Yarns: Heightened Surface Activity for Exceptional Chemiresistive Sensing.. <i>Advanced Materials</i> , <b>2022</b> , e2105869	24	2
15	Exploring Guest-Dependent Photoconductivity in a Donor-Containing Metal-Organic Framework. <i>Journal of Physical Chemistry C</i> , <b>2021</b> , 125, 10198-10206	3.8	2
14	Ultra-dense (~20 Tdot/in) nanoparticle array from an ordered supramolecular dendrimer containing a metal precursor. <i>Scientific Reports</i> , <b>2019</b> , 9, 3885	4.9	1
13	Towards accurate porosity descriptors based on guest-host interactions. <i>Journal of Molecular Graphics and Modelling</i> , <b>2016</b> , 66, 91-8	2.8	1
12	Computational generation of user-desired multivariate metal-organic framework structures. <i>ChemPhysChem</i> , <b>2014</b> , 15, 61-3	3.2	1
11	New model for S-shaped isotherm data and its application to process modeling using IAST. <i>Chemical Engineering Journal</i> , <b>2021</b> , 420, 127580	14.7	1
10	Finely tuned inverse design of metal-organic frameworks with user-desired Xe/Kr selectivity. <i>Journal of Materials Chemistry A</i> , <b>2021</b> , 9, 21175-21183	13	1
9	Machine learning-based discovery of molecules, crystals, and composites: A perspective review. <i>Korean Journal of Chemical Engineering</i> , <b>2021</b> , 38, 1971-1982	2.8	1

8	Suppressing Charge Disproportionation of MnO <sub>2</sub> Cathodes in Rechargeable Zinc Ion Batteries via Cooperative Jahn-Teller Distortion. <i>Batteries and Supercaps</i> ,	5.6	1
7	Tunable Electrical Conductivity of Flexible Metal-Organic Frameworks. <i>Chemistry of Materials</i> , <b>2022</b> , 34, 254-265	9.6	1
6	Computational techniques for characterisation of electrically conductive MOFs: quantum calculations and machine learning approaches. <i>Journal of Materials Chemistry C</i> ,	7.1	0
5	Deep learning-based initial guess for minimum energy path calculations. <i>Korean Journal of Chemical Engineering</i> , <b>2021</b> , 38, 406-410	2.8	0
4	Void Space versus Surface Functionalization for Proton Conduction in Metal-Organic Frameworks. <i>Angewandte Chemie</i> , <b>2021</b> , 133, 20335-20339	3.6	0
3	Confinement of Ultrasmall Bimetallic Nanoparticles in Conductive Metal-Organic Frameworks via Site-Specific Nucleation (Adv. Mater. 38/2021). <i>Advanced Materials</i> , <b>2021</b> , 33, 2170302	24	0
2	Mining Insights on Metal-Organic Framework Synthesis from Scientific Literature Texts.. <i>Journal of Chemical Information and Modeling</i> , <b>2022</b> , 62, 1190-1198	6.1	0
1	Innentitelbild: Void Space versus Surface Functionalization for Proton Conduction in Metal-Organic Frameworks (Angew. Chem. 37/2021). <i>Angewandte Chemie</i> , <b>2021</b> , 133, 20226-20226	3.6	