

# Jungkyu Choi

## List of Publications by Year in descending order

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73  
papers

2,488  
citations

218677

26  
h-index

214800

47  
g-index

78  
all docs

78  
docs citations

78  
times ranked

2840  
citing authors

#	ARTICLE	IF	CITATIONS
1	Grain Boundary Defect Elimination in a Zeolite Membrane by Rapid Thermal Processing. <i>Science</i> , 2009, 325, 590-593.	12.6	289
2	Diamine-functionalized metal-organic framework: exceptionally high CO <sub>2</sub> capacities from ambient air and flue gas, ultrafast CO <sub>2</sub> uptake rate, and adsorption mechanism. <i>Energy and Environmental Science</i> , 2014, 7, 744-751.	30.8	260
3	Thermal stability of ZIF-8 under oxidative and inert environments: A practical perspective on using ZIF-8 as a catalyst support. <i>Chemical Engineering Journal</i> , 2015, 278, 293-300.	12.7	142
4	Uniformly Oriented MFI Zeolite Films by Secondary Growth. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 1154-1158.	13.8	138
5	Thermal Structural Transitions and Carbon Dioxide Adsorption Properties of Zeolitic Imidazolate Framework-7 (ZIF-7). <i>Journal of the American Chemical Society</i> , 2014, 136, 7961-7971.	13.7	102
6	MFI zeolite membranes from a- and randomly oriented monolayers. <i>Adsorption</i> , 2006, 12, 339-360.	3.0	64
7	Incorporating Hierarchy into Conventional Zeolites for Catalytic Biomass Conversions: A Review. <i>Catalysts</i> , 2019, 9, 127.	3.5	64
8	Rapid thermal processing and separation performance of columnar MFI membranes on porous stainless steel tubes. <i>Energy and Environmental Science</i> , 2011, 4, 3479.	30.8	62
9	Defect-induced ripening of zeolitic-imidazolate framework ZIF-8 and its implication to vapor-phase membrane synthesis. <i>Chemical Communications</i> , 2016, 52, 11669-11672.	4.1	62
10	Role of Cu in Mo <sub>6</sub> S <sub>8</sub> and Cu Mixture Cathodes for Magnesium Ion Batteries. <i>ACS Applied Materials &amp; Interfaces</i> , 2015, 7, 7016-7024.	8.0	59
11	Chabazite-Type Zeolite Membranes for Effective CO <sub>2</sub> Separation: The Role of Hydrophobicity and Defect Structure. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 3946-3960.	8.0	53
12	On the performance of c-oriented MFI zeolite Membranes treated by rapid thermal processing. <i>Journal of Membrane Science</i> , 2013, 436, 79-89.	8.2	52
13	An oriented, siliceous deca-dodecasil 3R (DDR) zeolite film for effective carbon capture: insight into its hydrophobic effect. <i>Journal of Materials Chemistry A</i> , 2017, 5, 11246-11254.	10.3	52
14	Healing of Microdefects in SSZ-13 Membranes via Filling with Dye Molecules and Its Effect on Dry and Wet CO <sub>2</sub> Separations. <i>Chemistry of Materials</i> , 2018, 30, 3346-3358.	6.7	48
15	Organic template-free synthesis of high-quality CHA type zeolite membranes for carbon dioxide separation. <i>Journal of Membrane Science</i> , 2018, 549, 46-59.	8.2	47
16	MCM-22/Silica Selective Flake Nanocomposite Membranes for Hydrogen Separations. <i>Journal of the American Chemical Society</i> , 2010, 132, 448-449.	13.7	40
17	Effects of metal or metal oxide additives on oxidative coupling of methane using Na <sub>2</sub> WO <sub>4</sub> /SiO <sub>2</sub> catalysts: Reducibility of metal additives to manipulate the catalytic activity. <i>Applied Catalysis A: General</i> , 2018, 562, 114-119.	4.3	39
18	Formation of ZIF-8 membranes inside porous supports for improving both their H <sub>2</sub> /CO <sub>2</sub> separation performance and thermal/mechanical stability. <i>Journal of Membrane Science</i> , 2017, 540, 430-439.	8.2	38

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19	An Hetero-epitaxially Grown Zeolite Membrane. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 18654-18662.	13.8	38
20	Chemical Vapor Deposition on Chabazite (CHA) Zeolite Membranes for Effective Post-Combustion CO <sub>2</sub> Capture. <i>Environmental Science &amp; Technology</i> , 2014, 48, 14828-14836.	10.0	36
21	On defects in highly a-oriented MFI membranes. <i>Microporous and Mesoporous Materials</i> , 2013, 170, 1-8.	4.4	35
22	Uniform Si-CHA Zeolite Layers Formed by a Selective Sonication-Assisted Deposition Method. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 5280-5284.	13.8	31
23	Microstructural optimization of NH <sub>2</sub> -MIL-125 membranes with superior H <sub>2</sub> /CO <sub>2</sub> separation performance by innovating metal sources and heating modes. <i>Journal of Membrane Science</i> , 2020, 616, 118615.	8.2	30
24	High performance CO <sub>2</sub> -perm-selective SSZ-13 membranes: Elucidation of the link between membrane material and module properties. <i>Journal of Membrane Science</i> , 2020, 611, 118390.	8.2	29
25	Hydrogel micropost-based qPCR for multiplex detection of miRNAs associated with Alzheimer's disease. <i>Biosensors and Bioelectronics</i> , 2018, 101, 235-244.	10.1	28
26	On the zeolitic imidazolate framework-8 (ZIF-8) membrane for hydrogen separation from simulated biomass-derived syngas. <i>Microporous and Mesoporous Materials</i> , 2016, 233, 70-77.	4.4	27
27	Production of phenolic hydrocarbons from organosolv lignin and lignocellulose feedstocks of hardwood, softwood, grass and agricultural waste. <i>Journal of Industrial and Engineering Chemistry</i> , 2019, 69, 304-314.	5.8	27
28	Microstructural control of a SSZ-13 zeolite film via rapid thermal processing. <i>Journal of Membrane Science</i> , 2019, 591, 117342.	8.2	24
29	Quantitative elucidation of the elusive role of defects in polycrystalline MFI zeolite membranes on xylene separation performance. <i>Journal of Membrane Science</i> , 2019, 569, 91-103.	8.2	24
30	On methanol to hydrocarbons reactions in a hierarchically structured ZSM-5 zeolite catalyst. <i>Catalysis Today</i> , 2018, 303, 150-158.	4.4	21
31	Critical role of zeolites as H <sub>2</sub> S scavengers in argyrodite Li <sub>6</sub> PS <sub>5</sub> Cl solid electrolytes for all-solid-state batteries. <i>Journal of Materials Chemistry A</i> , 2021, 9, 17311-17316.	10.3	21
32	Synthesis and sonication-induced assembly of Si-DDR particles for close-packed oriented layers. <i>Chemical Communications</i> , 2013, 49, 7418.	4.1	20
33	On the synthesis and characterization of all-silica CHA zeolite particles. <i>Microporous and Mesoporous Materials</i> , 2014, 184, 47-54.	4.4	20
34	Multiplexed Detection of Epigenetic Markers Using Quantum Dot (QD)-Encoded Hydrogel Microparticles. <i>Analytical Chemistry</i> , 2016, 88, 4259-4268.	6.5	20
35	A copper-impregnated BEA zeolite for adsorption and oxidation of aromatic species during vehicle cold starts. <i>Applied Catalysis B: Environmental</i> , 2021, 287, 119951.	20.2	20
36	Mono-dispersed DDR zeolite particles by seeded growth and their CO <sub>2</sub> , N <sub>2</sub> , and H <sub>2</sub> O adsorption properties. <i>Chemical Engineering Journal</i> , 2016, 306, 876-888.	12.7	18

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37	Generation and extraction of hydrogen from low-temperature water-gas-shift reaction by a ZIF-8-based membrane reactor. <i>Microporous and Mesoporous Materials</i> , 2019, 280, 347-356.	4.4	17
38	Unavoidable but minimizable microdefects in a polycrystalline zeolite membrane: its remarkable performance for wet CO <sub>2</sub> /CH <sub>4</sub> separation. <i>Journal of Materials Chemistry A</i> , 2021, 9, 12593-12605.	10.3	17
39	Thermosensitive Structural Changes and Adsorption Properties of Zeolitic Imidazolate Framework-8 (ZIF-8). <i>Journal of Physical Chemistry C</i> , 2015, 119, 8226-8237.	3.1	16
40	On the synthesis of a hierarchically-structured ZSM-5 zeolite and the effect of its physicochemical properties with Cu impregnation on cold-start hydrocarbon trap performance. <i>Catalysis Today</i> , 2018, 314, 78-93.	4.4	15
41	Anti-poisoning core-shell metal/ZIF-8 catalyst for selective alkene hydrogenation. <i>Catalysis Today</i> , 2016, 265, 203-209.	4.4	13
42	Highly sensitive three-dimensional interdigitated microelectrode biosensors embedded with porosity tunable hydrogel for detecting proteins. <i>Sensors and Actuators B: Chemical</i> , 2020, 302, 127190.	7.8	13
43	Synthetic Origin-Dependent catalytic activity of Metal-Organic Frameworks: Unprecedented demonstration with ZIF-8s on CO <sub>2</sub> cycloaddition reaction. <i>Chemical Engineering Journal</i> , 2022, 435, 134964.	12.7	13
44	Increasing resolution of selectivity in alkene hydrogenation via diffusion length in core-shell MFI zeolite. <i>Catalysis Today</i> , 2018, 314, 94-100.	4.4	12
45	Multifunctionalized Reduced Graphene Oxide Biosensors for Simultaneous Monitoring of Structural Changes in Amyloid- $\beta$ 40. <i>Sensors</i> , 2018, 18, 1738.	3.8	12
46	Continuous-flow production of petroleum-replacing fuels from highly viscous Kraft lignin pyrolysis oil using its hydrocracked oil as a solvent. <i>Energy Conversion and Management</i> , 2020, 213, 112728.	9.2	11
47	An Extrinsic Pore-Containing Molecular Sieve Film: A Robust, High-Throughput Membrane Filter. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 1323-1331.	13.8	11
48	A Hybrid Zeolite Membrane-Based Breakthrough for Simultaneous CO <sub>2</sub> Capture and CH <sub>4</sub> Upgrading from Biogas. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 2893-2907.	8.0	11
49	Entropy-assisted image segmentation for nano- and micro-sized networks. <i>Journal of Microscopy</i> , 2016, 262, 274-294.	1.8	10
50	Effects of hierarchical zeolites on aromatization of acetylene. <i>Catalysis Today</i> , 2018, 303, 177-184.	4.4	10
51	An Hetero-Epitaxially Grown Zeolite Membrane. <i>Angewandte Chemie</i> , 2019, 131, 18827-18835.	2.0	10
52	Stacking MFI zeolite structures for improved Sonogashira coupling reactions. <i>Microporous and Mesoporous Materials</i> , 2019, 276, 147-153.	4.4	10
53	An unprecedented c-oriented DDR@MWW zeolite hybrid membrane: new insights into H <sub>2</sub> -permselectivities via six membered-ring pores. <i>Journal of Materials Chemistry A</i> , 2020, 8, 14071-14081.	10.3	10
54	Ionic liquid-templated synthesis of 10-MR zeolites and its origin disclosure. <i>Microporous and Mesoporous Materials</i> , 2020, 305, 110346.	4.4	10

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55	Kinetic Analysis of Secondary Crystal Growth for Hydrotalcite Film Formation. <i>Crystal Growth and Design</i> , 2015, 15, 884-890.	3.0	9
56	Condensation of furans for the production of diesel precursors: A study on the effects of surface acid sites of sulfonated carbon catalysts. <i>Catalysis Today</i> , 2021, 375, 155-163.	4.4	9
57	Two-Dimensional MFI Zeolite Nanosheets Exfoliated by Surfactant Assisted Solution Process. <i>Nanomaterials</i> , 2021, 11, 2327.	4.1	9
58	Understanding and improving the modular properties of high-performance SSZ-13 membranes for effective flue gas treatment. <i>Journal of Membrane Science</i> , 2022, 646, 120246.	8.2	9
59	A Cu-impregnated ZSM-5 zeolite for active cold start hydrocarbon removal: Cation-type-dependent Cu species and their synergetic HC adsorption/oxidation functions. <i>Chemical Engineering Journal</i> , 2022, 430, 132552.	12.7	8
60	Morphology control of ionic-liquid-templated ZSM-22 and ZSM-5 zeolites using a two-step process and its effect on toluene methylation. <i>Microporous and Mesoporous Materials</i> , 2021, 328, 111475.	4.4	8
61	Multiplex SNP Genotyping Using SWITCH: Sequence-Specific Nanoparticle with Interpretative Threshold-Mediated Sequence Decoding in Hydrogel. <i>Small</i> , 2022, 18, e2105538.	10.0	7
62	Effects of nanosheet catalysts on synthesis of aromatics and light hydrocarbons from acetylene. <i>Catalysis Today</i> , 2020, 352, 183-191.	4.4	6
63	Clinical application of serological Alzheimer's disease diagnosis using a highly sensitive biosensor with hydrogel-enhanced dielectrophoretic force. <i>Biosensors and Bioelectronics</i> , 2022, 195, 113668.	10.1	6
64	One-pot selective production of deoxygenated monomeric, dimeric, and trimeric hydrocarbons from xylose-derived 2-methylfuran using multifunctional tungstate-zirconia-supported Ru, Pd, and Ni catalysts. <i>Chemical Engineering Journal</i> , 2022, 441, 135581.	12.7	5
65	An Extrinsic-Pore-Containing Molecular Sieve Film: A Robust, High-Throughput Membrane Filter. <i>Angewandte Chemie</i> , 2021, 133, 1343-1351.	2.0	4
66	Improved catalytic depolymerization of lignin waste using carbohydrate derivatives. <i>Environmental Pollution</i> , 2021, 268, 115674.	7.5	4
67	Solution-mediated transformation of natural zeolite to ANA and CAN topological structures with altered active sites for ethanol conversion. <i>Advanced Powder Technology</i> , 2021, 32, 4155-4166.	4.1	4
68	On the effects of water exposure of as-synthesized LTA membranes on their structural properties and dehydration performances. <i>Separation and Purification Technology</i> , 2020, 238, 116493.	7.9	3
69	Upgrading of sulfur-containing biogas into high quality fuel via oxidative coupling of methane. <i>International Journal of Energy Research</i> , 2021, 45, 19363.	4.5	3
70	Unveiling the elusive role of tetraethyl orthosilicate hydrolysis in ionic-liquid-templated zeolite synthesis. <i>Materials Today Chemistry</i> , 2022, 23, 100658.	3.5	2
71	Na <sub>2</sub> WO <sub>4</sub> /Mn/SiO <sub>2</sub> Catalyst Pellets for Upgrading H <sub>2</sub> S-Containing Biogas via the Oxidative Coupling of Methane. <i>Catalysts</i> , 2021, 11, 1301.	3.5	1
72	Comparison of catalytic consequences of ionic liquid-templated ZSM-22 and ZSM-5 zeolites in propene dimerization. <i>Microporous and Mesoporous Materials</i> , 2022, 337, 111941.	4.4	1

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73	An anti-humidity palladium-containing MFI composite as a robust ethylene scavenger. Microporous and Mesoporous Materials, 2022, 341, 112090.	4.4	1