Ah-Hyung A Park

List of Publications by Year
in descending order

64 papers	3,604 citations	159525 30 h-index	133188 59 g-index
66 all docs	66 docs citations	66 times ranked	3433 citing authors

#	Article	IF	Citations
1	High efficiency nanocomposite sorbents for CO2 capture based on amine-functionalized mesoporous capsules. Energy and Environmental Science, 2011, 4, 444-452.	15.6	446
2	Biomass-based chemical looping technologies: the good, the bad and the future. Energy and Environmental Science, 2017, 10, 1885-1910.	15.6	382
3	CO2 mineral sequestration: physically activated dissolution of serpentine and pH swing process. Chemical Engineering Science, 2004, 59, 5241-5247.	1.9	368
4	Advancements in the treatment and processing of electronic waste with sustainability: a review of metal extraction and recovery technologies. Green Chemistry, 2019, 21, 919-936.	4.6	248
5	CO₂ Mineral Sequestration: Chemically Enhanced Aqueous Carbonation of Serpentine. Canadian Journal of Chemical Engineering, 2003, 81, 885-890.	0.9	159
6	Chemical and morphological changes during olivine carbonation for CO2 storage in the presence of NaCl and NaHCO3. Physical Chemistry Chemical Physics, 2014, 16, 4679.	1.3	145
7	Effects of Bonding Types and Functional Groups on CO₂ Capture using Novel Multiphase Systems of Liquid-like Nanoparticle Organic Hybrid Materials. Environmental Science & Technology, 2011, 45, 6633-6639.	4.6	128
8	Effect of H2O on Mg(OH)2 carbonation pathways for combined CO2 capture and storage. Chemical Engineering Science, 2013, 100, 332-341.	1.9	100
9	Review of liquid nano-absorbents for enhanced CO₂capture. Nanoscale, 2019, 11, 17137-17156.	2.8	87
10	Investigation of CO2 capture mechanisms of liquid-like nanoparticle organic hybrid materials via structural characterization. Physical Chemistry Chemical Physics, 2011, 13, 18115.	1.3	72
11	Tuning the dissolution kinetics of wollastonite via chelating agents for CO2 sequestration with integrated synthesis of precipitated calcium carbonates. Physical Chemistry Chemical Physics, 2013, 15, 15185.	1.3	68
12	Directed precipitation of hydrated and anhydrous magnesium carbonates for carbon storage. Physical Chemistry Chemical Physics, 2014, 16, 23440-23450.	1.3	68
13	Experimental Design and Data Analysis for Accurate Estimation of Reaction Kinetics and Conversion for Carbon Mineralization. Industrial & Engineering Chemistry Research, 2014, 53, 6664-6676.	1.8	57
14	Recent Advances in Anhydrous Solvents for CO2 Capture: Ionic Liquids, Switchable Solvents, and Nanoparticle Organic Hybrid Materials. Frontiers in Energy Research, 2015, 3, .	1.2	57
15	CO₂ Capture Capacity and Swelling Measurements of Liquid-like Nanoparticle Organic Hybrid Materials via Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy. Journal of Chemical & Engineering Data, 2012, 57, 40-45.	1.0	56
16	An Overview: Reaction Mechanisms and Modelling of CO2 Utilization via Mineralization. Aerosol and Air Quality Research, 2018, 18, 829-848.	0.9	54
17	Biomass conversion to H₂ with substantially suppressed CO₂ formation in the presence of Group I & Group II hydroxides and a Ni/ZrO₂ catalyst. Energy and Environmental Science, 2015, 8, 1702-1706.	15.6	52
18	Tandem and Hybrid Processes for Carbon Dioxide Utilization. Joule, 2021, 5, 8-13.	11.7	52

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19	Effect of SO₂ on CO₂ Capture Using Liquid-like Nanoparticle Organic Hybrid Materials. Energy & Fuels, 2013, 27, 4167-4174.	2.5	47
20	Hybrid Metasurface-Based Mid-Infrared Biosensor for Simultaneous Quantification and Identification of Monolayer Protein. ACS Photonics, 2019, 6, 501-509.	3.2	47
21	Elucidating the differences in the carbon mineralization behaviors of calcium and magnesium bearing alumino-silicates and magnesium silicates for CO2 storage. Fuel, 2020, 277, 117900.	3.4	47
22	Design and Characterization of Liquidlike POSS-Based Hybrid Nanomaterials Synthesized via Ionic Bonding and Their Interactions with CO₂. Langmuir, 2013, 29, 12234-12242.	1.6	46
23	Solvent Impregnated Polymers Loaded with Liquidâ€Like Nanoparticle Organic Hybrid Materials for Enhanced Kinetics of Direct Air Capture and Point Source CO₂ Capture. Advanced Functional Materials, 2021, 31, 2010047.	7.8	46
24	Electrochemical approaches for selective recovery of critical elements in hydrometallurgical processes of complex feedstocks. IScience, 2021, 24, 102374.	1.9	46
25	Spectroscopic Investigation of the Canopy Configurations in Nanoparticle Organic Hybrid Materials of Various Grafting Densities during CO₂ Capture. Journal of Physical Chemistry C, 2012, 116, 516-525.	1.5	43
26	Effect of canopy structures and their steric interactions on CO2 sorption behavior of liquid-like nanoparticle organic hybrid materials. RSC Advances, 2014, 4, 8723.	1.7	36
27	Investigation of the Different Carbonate Phases and Their Formation Kinetics during Mg(OH)₂ Slurry Carbonation. Industrial & Engineering Chemistry Research, 2014, 53, 18170-18179.	1.8	34
28	Morphological changes during enhanced carbonation of asbestos containing material and its comparison to magnesium silicate minerals. Journal of Hazardous Materials, 2014, 264, 42-52.	6.5	33
29	Alkaline thermal treatment of seaweed for high-purity hydrogen production with carbon capture and storage potential. Nature Communications, 2020, 11, 3783.	5.8	33
30	Accelerated Carbonation of Ca- and Mg-Bearing Minerals and Industrial Wastes Using CO2. , 2015, , 115-137.		32
31	29Si solid state MAS NMR study on leaching behaviors and chemical stability of different Mg-silicate structures for CO2 sequestration. Chemical Engineering Journal, 2020, 396, 125204.	6.6	31
32	Effect of water on the physical properties and carbon dioxide capture capacities of liquid-like Nanoparticle Organic Hybrid Materials and their corresponding polymers. Journal of Colloid and Interface Science, 2013, 407, 102-108.	5.0	30
33	Recent advancements in sustainable upcycling of solid waste into porous carbons for carbon dioxide capture. Renewable and Sustainable Energy Reviews, 2022, 162, 112413.	8.2	30
34	Electrochemical CO₂ Reduction Reaction over Cu Nanoparticles with Tunable Activity and Selectivity Mediated by Functional Groups in Polymeric Binder. Jacs Au, 2022, 2, 214-222.	3.6	29
35	Carbonation of Silicate Minerals and Industrial Wastes and Their Potential Use as Sustainable Construction Materials. ACS Symposium Series, 2015, , 295-322.	0.5	28
36	Enhanced extraction of copper from electronic waste via induced morphological changes using supercritical CO2. Resources, Conservation and Recycling, 2021, 168, 105296.	5.3	27

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37	Lanthanide metalâ€“organic frameworks for the fixation of CO₂ under aqueous-rich and mixed-gas conditions. Journal of Materials Chemistry A, 2022, 10, 1442-1450.	5.2	26
38	Thermal stability, swelling behavior and CO₂ absorption properties of Nanoscale Ionic Materials (NIMs). RSC Advances, 2014, 4, 65195-65204.	1.7	23
39	Novel Approach to Hydrogen Production with Suppressed CO_x Generation from a Model Biomass Feedstock. Energy & Fuels, 2012, 26, 4486-4496.	2.5	22
40	CO₂ utilization in built environment via the P_{CO2} swing carbonation of alkaline solid wastes with different mineralogy. Faraday Discussions, 2021, 230, 187-212.	1.6	20
41	Bio-Energy with Carbon Capture and Storage (BECCS) potential: Production of high purity H2 from cellulose via Alkaline Thermal Treatment with gas phase reforming of hydrocarbons over various metal catalysts. International Journal of Hydrogen Energy, 2017, 42, 25903-25913.	3.8	17
42	Investigation of the role of Ca(OH)2 in the catalytic Alkaline Thermal Treatment of cellulose to produce H2 with integrated carbon capture. Journal of Energy Chemistry, 2017, 26, 984-1000.	7.1	17
43	Investigation on Abrasion versus Fragmentation of the Si-rich Passivation Layer for Enhanced Carbon Mineralization via CO₂ Partial Pressure Swing. Industrial & Engineering Chemistry Research, 2020, 59, 6517-6531.	1.8	16
44	Toward Sustainable Energy and Materials: CO2 Capture Using Microencapsulated Sorbents. Industrial & Engineering Chemistry Research, 2020, 59, 9746-9759.	1.8	14
45	Localized and Collective Dynamics in Liquid-like Polyethylenimine-Based Nanoparticle Organic Hybrid Materials. Macromolecules, 2021, 54, 2296-2305.	2.2	14
46	Integration of Two Waste Streams for Carbon Storage and Utilization: Enhanced Metal Extraction from Steel Slag Using Biogenic Volatile Organic Acids. ACS Sustainable Chemistry and Engineering, 2020, 8, 18519-18527.	3.2	13
47	Simultaneous CO2 utilization and rare earth elements recovery by novel aqueous carbon mineralization of blast furnace slag. Journal of Environmental Chemical Engineering, 2022, 10, 107327.	3.3	13
48	Spectroscopic Investigation of Thermochemical Depolymerization of Lignin Model Compounds in the Presence of Novel Liquidlike Nanoparticle Organic Hybrid Solvents for Efficient Biomass Valorization. Organic Process Research and Development, 2018, 22, 1723-1732.	1.3	12
49	Supercritical CO2-induced alteration of a polymerâ€“metal matrix and selective extraction of valuable metals from waste printed circuit boards. Green Chemistry, 2020, 22, 7080-7092.	4.6	12
50	Bio-energy with carbon capture and storage via alkaline thermal Treatment: Production of high purity H2 from wet wheat straw grass with CO2 capture. Applied Energy, 2020, 264, 114675.	5.1	12
51	Thermodynamic and kinetic studies of the MgCl₂â€“NH₄Clâ€“NH₃â€“H₂O system for the production of high purity MgO from calcined lowâ€grade magnesite. AICHE Journal, 2015, 61, 1933-1946.	1.8	11
52	Electrochemical Behavior of Copper Ion Complexed with Nanoparticle Organic Hybrid Materials. Journal of the Electrochemical Society, 2020, 167, 116508.	1.3	11
53	Structure and Dispersion of Free and Grafted Polymer in Nanoparticle Organic Hybrid Materials-Based Solutions by Small-Angle Neutron Scattering. Journal of Physical Chemistry C, 2021, 125, 5327-5334.	1.5	10
54	Kinetic and mechanistic investigation of catalytic alkaline thermal treatment of xylan producing high purity H2 with in-situ carbon capture. Journal of Industrial and Engineering Chemistry, 2020, 85, 219-225.	2.9	9

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55	Dynamic Mixing Behaviors of Ionically Tethered Polymer Canopy of Nanoscale Hybrid Materials in Fluids of Varying Physical and Chemical Properties. Journal of Physical Chemistry B, 2021, 125, 9223-9234.	1.2	9
56	Encapsulation of highly viscous CO2 capture solvents for enhanced capture kinetics: Modeling investigation of mass transfer mechanisms. Chemical Engineering Journal, 2022, 428, 131603.	6.6	9
57	Evaluation of elemental leaching behavior and morphological changes of steel slag in both acidic and basic conditions for carbon sequestration potential. Korean Journal of Chemical Engineering, 2021, 38, 2279-2285.	1.2	8
58	Carbon Dioxide Capture and Utilizationâ€"Closing the Carbon Cycle. Energy & Fuels, 2019, 33, 1693-1693.	2.5	7
59	Insights into the Enhanced Oxidative Thermal Stability of Nanoparticle Organic Hybrid Materials Developed for Carbon Capture and Energy Storage. Energy & Fuels, 2021, 35, 19592-19605.	2.5	7
60	Extraction Mechanism of Lithium from the Alkali Solution with Diketonate-Based Ionic Liquid Extractants. Energy & Fuels, 2020, 34, 11581-11589.	2.5	6
61	Novel in-capsule synthesis of metalâ€"organic framework for innovative carbon dioxide capture system. Green Energy and Environment, 2023, 8, 767-774.	4.7	5
62	Nanoscale Hybrid Electrolytes with Viscosity Controlled Using Ionic Stimulus for Electrochemical Energy Conversion and Storage. Jacs Au, 2022, 2, 590-600.	3.6	5
63	Mechanistic Study of Controlled Zinc Electrodeposition Behaviors Facilitated by Nanoscale Electrolyte Additives at the Electrode Interface. ACS Applied Materials & Interfaces, 2022, 14, 22016-22029.	4.0	5
64	Impacts of Bond Type and Grafting Density on the Thermal, Structural, and Transport Behaviors of Nanoparticle Organic Hybrid Materialsâ€Based Electrolytes. Advanced Functional Materials, 0, , 2203947.	7.8	4