Zhi Sun

List of Publications by Year
in descending order

107	6,518	76294	66879
papers	citations	40 h-index	78 g-index

108	108	108	3769
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Critical Review and Analysis on the Recycling of Spent Lithium-Ion Batteries. ACS Sustainable Chemistry and Engineering, 2018, 6, 1504-1521.	3.2	754
2	Recycling of spent lithium-ion batteries in view of lithium recovery: A critical review. Journal of Cleaner Production, 2019, 228, 801-813.	4.6	464
3	A Mini-Review on Metal Recycling from Spent Lithium Ion Batteries. Engineering, 2018, 4, 361-370.	3.2	456
4	Lithium Carbonate Recovery from Cathode Scrap of Spent Lithium-Ion Battery: A Closed-Loop Process. Environmental Science & Technology, 2017, 51, 1662-1669.	4.6	341
5	Spent lithium-ion battery recycling â€“ Reductive ammonia leaching of metals from cathode scrap by sodium sulphite. Waste Management, 2017, 60, 680-688.	3.7	285
6	Selective recovery of lithium from spent lithium iron phosphate batteries: a sustainable process. Green Chemistry, 2018, 20, 3121-3133.	4.6	257
7	Selective recovery of valuable metals from spent lithium-ion batteries â€“ Process development and kinetics evaluation. Journal of Cleaner Production, 2018, 178, 833-845.	4.6	209
8	A Closed-Loop Process for Selective Metal Recovery from Spent Lithium Iron Phosphate Batteries through Mechanochemical Activation. ACS Sustainable Chemistry and Engineering, 2017, 5, 9972-9980.	3.2	195
9	Spent lead-acid battery recycling in China â€“ A review and sustainable analyses on mass flow of lead. Waste Management, 2017, 64, 190-201.	3.7	154
10	Environmentally benign process for selective recovery of valuable metals from spent lithium-ion batteries by using conventional sulfation roasting. Green Chemistry, 2019, 21, 5904-5913.	4.6	136
11	Material flow analysis on critical raw materials of lithium-ion batteries in China. Journal of Cleaner Production, 2019, 215, 570-581.	4.6	127
12	Comprehensive evaluation on effective leaching of critical metals from spent lithium-ion batteries. Waste Management, 2018, 75, 477-485.	3.7	126
13	Recycling of metals from urban mines â€“ a strategic evaluation. Journal of Cleaner Production, 2016, 112, 2977-2987.	4.6	117
14	Recycling of LiNi1/3Co1/3Mn1/3O2 cathode materials from spent lithium-ion batteries using mechanochemical activation and solid-state sintering. Waste Management, 2019, 84, 54-63.	3.7	115
15	Conversion Mechanisms of Selective Extraction of Lithium from Spent Lithium-Ion Batteries by Sulfation Roasting. ACS Applied Materials & Interfaces, 2020, 12, 18482-18489.	4.0	115
16	Recycling of spent lithium-ion batteries in view of green chemistry. Green Chemistry, 2021, 23, 6139-6171.	4.6	113
17	A Cleaner Process for Selective Recovery of Valuable Metals from Electronic Waste of Complex Mixtures of End-of-Life Electronic Products. Environmental Science & Technology, 2015, 49, 7981-7988.	4.6	91
18	A sustainable process for metal recycling from spent lithium-ion batteries using ammonium chloride. Waste Management, 2018, 79, 545-553.	3.7	79

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19	Efficient reuse of anode scrap from lithium-ion batteries as cathode for pollutant degradation in electro-Fenton process: Role of different recovery processes. Chemical Engineering Journal, 2018, 337, 256-264.	6.6	77
20	Selective Recovery of Lithium from Spent Lithium-Ion Batteries by Coupling Advanced Oxidation Processes and Chemical Leaching Processes. ACS Sustainable Chemistry and Engineering, 2020, 8, 5165-5174.	3.2	71
21	Selective copper recovery from complex mixtures of end-of-life electronic products with ammonia-based solution. Hydrometallurgy, 2015, 152, 91-99.	1.8	68
22	Internal failure of anode materials for lithium batteries â€" A critical review. Green Energy and Environment, 2020, 5, 22-36.	4.7	67
23	Understanding the features of PGMs in spent ternary automobile catalysts for development of cleaner recovery technology. Journal of Cleaner Production, 2019, 239, 118031.	4.6	66
24	Strong static magnetic field processing of metallic materials: A review. Current Opinion in Solid State and Materials Science, 2012, 16, 254-267.	5.6	65
25	Alkaline electrochemical advanced oxidation process for chromium oxidation at graphitized multi-walled carbon nanotubes. Chemosphere, 2017, 183, 156-163.	4.2	62
26	Sustainable Preparation of LiNi_{1/3}Co_{1/3}Mn_{1/3}O₂â€"V₂O₅ Cathode Materials by Recycling Waste Materials of Spent Lithium-Ion Battery and Vanadium-Bearing Slag. ACS Sustainable Chemistry and Engineering, 2018, 6, 5797-5805.	3.2	61
27	A new method of potassium chromate production from chromite and KOHâ€KNO₃â€H₂O binary submolten salt system. AIChE Journal, 2009, 55, 2646-2656.	1.8	60
28	Copper and gold recovery from CPU sockets by one-step slurry electrolysis. Journal of Cleaner Production, 2019, 213, 673-679.	4.6	60
29	Effective treatment for electronic waste - Selective recovery of copper by combining electrochemical dissolution and deposition. Journal of Cleaner Production, 2017, 152, 150-156.	4.6	59
30	A novel and efficient ammonia leaching method for recycling waste lithium ion batteries. Journal of Cleaner Production, 2020, 251, 119665.	4.6	56
31	Artificial neural networks with response surface methodology for optimization of selective CO2 hydrogenation using K-promoted iron catalyst in a microchannel reactor. Journal of CO2 Utilization, 2018, 24, 10-21.	3.3	54
32	An environmentally friendly electro-oxidative approach to recover valuable elements from NdFeB magnet waste. Separation and Purification Technology, 2018, 191, 384-391.	3.9	54
33	Evaluation on end-of-life LEDs by understanding the criticality and recyclability for metals recycling. Journal of Cleaner Production, 2018, 182, 624-633.	4.6	52
34	Selective Extraction of Rare-Earth Elements from NdFeB Magnets by a Room-Temperature Electrolysis Pretreatment Step. ACS Sustainable Chemistry and Engineering, 2018, 6, 9375-9382.	3.2	47
35	A Critical Perspective on CO₂ Conversions into Chemicals and Fuels. Journal of Nanoscience and Nanotechnology, 2019, 19, 3097-3109.	0.9	45
36	Lithium carbonate recovery from lithium-containing solution by ultrasound assisted precipitation. Ultrasonics Sonochemistry, 2019, 52, 484-492.	3.8	45

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37	Direct preparation of efficient catalyst for oxygen evolution reaction and high-purity Li2CO3 from spent LiNi0.5Mn0.3Co0.2O2 batteries. Journal of Cleaner Production, 2019, 236, 117576.	4.6	44
38	Synergic Mechanisms on Carbon and Sulfur during the Selective Recovery of Valuable Metals from Spent Lithium-Ion Batteries. ACS Sustainable Chemistry and Engineering, 2021, 9, 2271-2279.	3.2	44
39	Thermochemically driven crystal phase transfer via chlorination roasting toward the selective extraction of lithium from spent LiNi1/3Co1/3Mn1/3O2. Resources, Conservation and Recycling, 2021, 174, 105757.	5.3	44
40	Fischer-Tropsch synthesis in a microchannel reactor using mesoporous silica supported bimetallic Co-Ni catalyst: Process optimization and kinetic modeling. Chemical Engineering and Processing: Process Intensification, 2017, 119, 44-61.	1.8	41
41	Fischer-Tropsch synthesis using iron based catalyst in a microchannel reactor: Performance evaluation and kinetic modeling. International Journal of Hydrogen Energy, 2017, 42, 29222-29235.	3.8	41
42	An environmentally friendly process to selectively recover silver from copper anode slime. Journal of Cleaner Production, 2018, 187, 708-716.	4.6	40
43	Strong Magnetic Field Effect on Surface Tension Associated with an Interfacial Magnetic Pressure. Journal of Physical Chemistry C, 2012, 116, 17676-17681.	1.5	39
44	Rethinking Chinese supply resilience of critical metals in lithium-ion batteries. Journal of Cleaner Production, 2020, 256, 120719.	4.6	39
45	Separation of V(V) and Cr(VI) in leaching solution using annular centrifugal contactors. Chemical Engineering Journal, 2017, 315, 373-381.	6.6	37
46	Characterisation of metals in the electronic waste of complex mixtures of end-of-life ICT products for development of cleaner recovery technology. Waste Management, 2015, 35, 227-235.	3.7	35
47	MnO₂-Functionalized Amorphous Carbon Sorbents from Spent Lithium-Ion Batteries for Highly Efficient Removal of Cadmium from Aqueous Solutions. Industrial & Engineering Chemistry Research, 2020, 59, 10210-10220.	1.8	33
48	Enhanced selective recovery of selenium from anode slime using MnO2 in dilute H2SO4 solution as oxidant. Journal of Cleaner Production, 2019, 209, 494-504.	4.6	32
49	Effect of electrolyte reuse on metal recovery from waste CPU slots by slurry electrolysis. Waste Management, 2019, 95, 370-376.	3.7	29
50	Optimization and kinetic modeling of an enhanced bio-hydrogen fermentation with the addition of synergistic biochar and nickel nanoparticle. International Journal of Energy Research, 2019, 43, 983-999.	2.2	29
51	Criticality assessment of metal resources in China. IScience, 2021, 24, 102524.	1.9	29
52	High-Performance Recovery of Vanadium(V) in Leaching/Aqueous Solution by a Reusable Reagent-Primary Amine N1519. ACS Sustainable Chemistry and Engineering, 2017, 5, 3096-3102.	3.2	28
53	Complex electronic waste treatment â€“ An effective process to selectively recover copper with solutions containing different ammonium salts. Waste Management, 2016, 57, 140-148.	3.7	27
54	Optimization of biohydrogen production using acid pretreated corn stover hydrolysate followed by nickel nanoparticle addition. International Journal of Energy Research, 2020, 44, 1843-1857.	2.2	27

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55	Recovery of high purity copper from waste printed circuit boards of mobile phones by slurry electrolysis with ammonia-ammonium system. Separation and Purification Technology, 2021, 275, 119180.	3.9	27
56	Transformation and migration mechanism of fluorine-containing pollutants in the pyrolysis process of spent lithium-ion battery. Journal of Hazardous Materials, 2022, 435, 128974.	6.5	24
57	Electrochemistry during efficient copper recovery from complex electronic waste using ammonia based solutions. Frontiers of Chemical Science and Engineering, 2017, 11, 308-316.	2.3	23
58	Economic evaluation of typical metal production process: A case study of vanadium oxide production in China. Journal of Cleaner Production, 2020, 256, 120217.	4.6	23
59	Investigation of solution chemistry to enable efficient lithium recovery from low-concentration lithium-containing wastewater. Frontiers of Chemical Science and Engineering, 2020, 14, 639-650.	2.3	22
60	Near-to-Stoichiometric Acidic Recovery of Spent Lithium-Ion Batteries through Induced Crystallization. ACS Sustainable Chemistry and Engineering, 2021, 9, 3183-3194.	3.2	22
61	Alignment of weakly magnetic metals during solidification in a strong magnetic field. Journal of Alloys and Compounds, 2013, 551, 568-577.	2.8	21
62	Quantitative Study on Dissolution Behavior of Nd₂O₃ in Fluoride Melts. Industrial & Engineering Chemistry Research, 2018, 57, 1380-1388.	1.8	21
63	Recovery of High-Purity Vanadium from Aqueous Solutions by Reusable Primary Amines N1923 Associated with Semiquantitative Understanding of Vanadium Species. ACS Sustainable Chemistry and Engineering, 2018, 6, 7619-7626.	3.2	21
64	Simultaneous Phenol Detoxification and Dilute Metal Recovery in Cyclone Electrochemical Reactor. Industrial & Engineering Chemistry Research, 2019, 58, 12642-12649.	1.8	21
65	One-step recovery of REE oxalates in electro-leaching of spent NdFeB magnets. Separation and Purification Technology, 2020, 251, 117362.	3.9	20
66	Novel method for characterization of aqueous vanadium species: A perspective for the transition metal chemical speciation studies. Journal of Hazardous Materials, 2019, 364, 91-99.	6.5	19
67	Enhanced leaching of manganese from low-grade pyrolusite using ball milling and electric field. Ecotoxicology and Environmental Safety, 2021, 211, 111893.	2.9	19
68	Processing of non-ferromagnetic materials in strong static magnetic field. Current Opinion in Solid State and Materials Science, 2013, 17, 193-201.	5.6	18
69	One-step recovery of valuable metals from spent Lithium-ion batteries and synthesis of persulfate through paired electrolysis. Chemical Engineering Journal, 2021, 421, 129908.	6.6	18
70	Fischer-Trospch synthesis using iron-based catalyst in a microchannel reactor: Hybrid lump kinetic with ANNs/RSM. Chemical Engineering and Processing: Process Intensification, 2017, 122, 181-189.	1.8	17
71	NUMERICAL CALCULATIONS ON INCLUSION REMOVAL FROM LIQUID METALS UNDER STRONG MAGNETIC FIELDS. Progress in Electromagnetics Research, 2009, 98, 359-373.	1.6	16
72	Semiempirical Model for the Solubility of Rare Earth Oxides in Molten Fluorides. Industrial & Engineering Chemistry Research, 2016, 55, 4773-4781.	1.8	16

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73	A simple coupled ANNsâ€RSM approach in modeling product distribution of Fischerâ€Tropsch synthesis using a microchannel reactor with Ruâ€promoted Co/Al ₂ O ₃ catalyst. International Journal of Energy Research, 2020, 44, 1046-1061.	2.2	16
74	Preparation of biochar catalyst from black liquor by spray drying and fluidized bed carbonation for biodiesel synthesis. Chemical Engineering Research and Design, 2020, 141, 333-343.	2.7	16
75	Effect of ionic liquid [MIm]HSO4 on WPCB metal-enriched scraps refined by slurry electrolysis. Environmental Science and Pollution Research, 2019, 26, 33260-33268.	2.7	15
76	Deep understanding of sustainable vanadium recovery from chrome vanadium slag: Promotive action of competitive chromium species for vanadium solvent extraction. Journal of Hazardous Materials, 2022, 422, 126791.	6.5	15
77	Performance Study of stirred tank slurry reactor and fixedâ€bed reactor using bimetallic Coâ€“Ni mesoporous silica catalyst for fischerâ€“tropsch synthesis. Environmental Progress and Sustainable Energy, 2018, 37, 553-561.	1.3	14
78	Whole-Process Pollution Control for Cost-Effective and Cleaner Chemical Productionâ€”A Case Study of the Tungsten Industry in China. Engineering, 2019, 5, 768-776.	3.2	14
79	MAGNETIC INTERACTION BETWEEN TWO NON-MAGNETIC PARTICLES MIGRATING IN A CONDUCTIVE FLUID INDUCED BY A STRONG MAGNETIC FIELD-AN ANALYTICAL APPROACH. Progress in Electromagnetics Research, 2010, 103, 1-16.	1.6	13
80	Highly selective metal recovery from spent lithium-ion batteries through stoichiometric hydrogen ion replacement. Frontiers of Chemical Science and Engineering, 2021, 15, 1243-1256.	2.3	13
81	Strong magnetic field effects on solidâ€“liquid and particleâ€“particle interactions during the processing of a conducting liquid containing non-conducting particles. Journal of Colloid and Interface Science, 2012, 375, 203-212.	5.0	12
82	Phase evolution and nature of oxide dissolution in metallurgical slags. AICHE Journal, 2013, 59, 2907-2916.	1.8	12
83	W-doped MoS2 nanosheets as a highly-efficient catalyst for hydrogen peroxide electroreduction in alkaline media. Catalysis Science and Technology, 2017, 7, 5733-5740.	2.1	12
84	A Novel, Solvent-Free Mechanochemistry Approach for Gold Extraction from Anode Slime. ACS Sustainable Chemistry and Engineering, 2019, 7, 11415-11425.	3.2	11
85	Selective Recovery of Gallium (Indium) from Metal Organic Chemical Vapor Deposition Dustâ€”A Sustainable Process. ACS Sustainable Chemistry and Engineering, 2019, 7, 9646-9654.	3.2	11
86	Modified alginate dressing with high thermal stability as a new separator for Li-ion batteries. Chemical Communications, 2020, 56, 6149-6152.	2.2	11
87	Green Fabrication of Carbon Dots upon Photoirradiation and Their Application in Cell Imaging. ACS Applied Nano Materials, 2019, 2, 3404-3413.	2.4	9
88	Comprehensive characterization on Ga (In)-bearing dust generated from semiconductor industry for effective recovery of critical metals. Waste Management, 2019, 89, 212-223.	3.7	9
89	Quantitative tuning of ionic metal species for ultra-selective metal solvent extraction toward high-purity vanadium products. Journal of Hazardous Materials, 2022, 425, 127756.	6.5	9
90	STRONG MAGNETIC FIELD INDUCED SEGREGATION AND SELF-ASSEMBLY OF MICROMETER SIZED NON-MAGNETIC PARTICLES. Progress in Electromagnetics Research B, 2010, 23, 199-214.	0.7	8

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91	Diffusionâ€limited dissolution of spherical particles: A critical evaluation and applications of approximate solutions. AICHE Journal, 2017, 63, 2926-2934.	1.8	8
92	Biodiesel production using calciumâ€based catalyst from venus shell: Modeling of startup production in an industrial reactor. Environmental Progress and Sustainable Energy, 2019, 38, e13053.	1.3	8
93	Preparation of hybrid porous carbon using black liquor lignin impregnated with steelmaking slag and its performance in SO₂ removal. Environmental Progress and Sustainable Energy, 2017, 36, 1417-1427.	1.3	7
94	A review of application of annular centrifugal contactors in aspects of mass transfer and operational security. Hydrometallurgy, 2018, 177, 41-48.	1.8	7
95	Waste Electrical and Electronic Equipment Reutilization in China. Sustainability, 2021, 13, 11433.	1.6	7
96	Controllable recovery of ammonium substituted polyoxovanadate acid compound (ASPOVC) from aqueous/leaching solution by primary amines. Journal of Cleaner Production, 2018, 205, 728-737.	4.6	6
97	Silver dissolution in a novel leaching system: Reaction kinetics study. International Journal of Minerals, Metallurgy and Materials, 2019, 26, 168-177.	2.4	5
98	Selective Recovery of Lithium from Spent Lithium-ion Batteries Synergized by Carbon and Sulfur Elements. Acta Chimica Sinica, 2021, 79, 1073.	0.5	5
99	Numerical simulation on magnetic assembled structures of iron-based metallic particles within MMCs by a homogeneous strong magnetic field. Journal Physics D: Applied Physics, 2015, 48, 365501.	1.3	4
100	Comparison of Two Solvent Extraction Systems for the Separation of V(V) and Cr(VI) from an Industrial Leaching Solution. Solvent Extraction and Ion Exchange, 2017, 35, 519-530.	0.8	4
101	Dataset of lithium phosphate recovery from a low concentrated lithium-containing solution. Data in Brief, 2019, 25, 104044.	0.5	4
102	An environmentally friendly system for high efficient silver recovery from anode slime. Metallurgical Research and Technology, 2019, 116, 208.	0.4	4
103	Inhibition Role of Solvation on the Selective Extraction of Co(II): Toward Eco-Friendly Separation of Ni and Co. ACS Sustainable Chemistry and Engineering, 2022, 10, 1160-1171.	3.2	4
104	Effect of CO conversion upon product distribution using bimetallic Coâ€Ni mesoporous silica catalyst for Fischerâ€“Tropsch synthesis: a comparative study of fixedâ€bed reactor and slurry continuous stirred tank reactor. Asia-Pacific Journal of Chemical Engineering, 2017, 12, 518-526.	0.8	3
105	Criticality assessment of metal resources for light-emitting diode (LED) production â€“ A case study in China. Cleaner Engineering and Technology, 2022, 6, 100380.	2.1	2
106	Investigation of Efficient Conditions for Oxidative Roasting of Chromite Ore to Produce Potassium Chromate with KOH Additive. Steel Research International, 2007, 78, 574-576.	1.0	1
107	Non-metallic Particles Manipulation in Liquid Metals During Electromagnetic Processing. Journal of Powder Metallurgy and Mining, 2012, 01, .	0.2	1