

Weifeng Shen

List of Publications by Year in descending order

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84
papers

3,236
citations

94433

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times ranked

1193
citing authors

#	ARTICLE	IF	CITATIONS
1	Design and control of pressure-swing distillation for separating ternary systems with three binary minimum azeotropes. <i>AICHE Journal</i> , 2019, 65, 1281-1293.	3.6	167
2	Optimal Design and Effective Control of Triple-Column Extractive Distillation for Separating Ethyl Acetate/Ethanol/Water with Multi-azeotrope. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 7265-7283.	3.7	126
3	Energy-saving investigation for diethyl carbonate synthesis through the reactive dividing wall column combining the vapor recompression heat pump or different pressure thermally coupled technique. <i>Energy</i> , 2019, 172, 320-332.	8.8	114
4	Systematic design of an extractive distillation for maximum-boiling azeotropes with heavy entrainers. <i>AICHE Journal</i> , 2015, 61, 3898-3910.	3.6	106
5	Extractive distillation: Advances in conceptual design, solvent selection, and separation strategies. <i>Chinese Journal of Chemical Engineering</i> , 2019, 27, 1247-1256.	3.5	90
6	Systematic approach for screening organic and ionic liquid solvents in homogeneous extractive distillation exemplified by the tert-butanol dehydration. <i>Separation and Purification Technology</i> , 2019, 211, 723-737.	7.9	84
7	Investigation of energy-saving azeotropic dividing wall column to achieve cleaner production via heat exchanger network and heat pump technique. <i>Journal of Cleaner Production</i> , 2019, 234, 410-422.	9.3	83
8	Optimization and control of energy saving side-stream extractive distillation with heat integration for separating ethyl acetate-ethanol azeotrope. <i>Chemical Engineering Science</i> , 2020, 215, 115373.	3.8	83
9	Investigation of an energy-saving double-thermally coupled extractive distillation for separating ternary system benzene/toluene/cyclohexane. <i>Energy</i> , 2019, 186, 115756.	8.8	80
10	Towards sustainable separation of the ternary azeotropic mixture based on the intensified reactive-extractive distillation configurations and multi-objective particle swarm optimization. <i>Journal of Cleaner Production</i> , 2022, 332, 130116.	9.3	77
11	Multi-objective optimization of organic Rankine cycle system for the waste heat recovery in the heat pump assisted reactive dividing wall column. <i>Energy Conversion and Management</i> , 2019, 199, 112041.	9.2	76
12	Energy-Saving Optimal Design and Effective Control of Heat Integration-Extractive Dividing Wall Column for Separating Heterogeneous Mixture Methanol/Toluene/Water with Multi-azeotropes. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 8036-8056.	3.7	75
13	Investigation on ternary system tetrahydrofuran/ethanol/water with three azeotropes separation via the combination of reactive and extractive distillation. <i>Journal of Cleaner Production</i> , 2020, 273, 123145.	9.3	74
14	Understanding activity origin for the oxygen reduction reaction on bi-atom catalysts by DFT studies and machine-learning. <i>Journal of Materials Chemistry A</i> , 2020, 8, 24563-24571.	10.3	71
15	An architecture of deep learning in QSPR modeling for the prediction of critical properties using molecular signatures. <i>AICHE Journal</i> , 2019, 65, e16678.	3.6	70
16	Predictive deep learning models for environmental properties: the direct calculation of octanol-water partition coefficients from molecular graphs. <i>Green Chemistry</i> , 2019, 21, 4555-4565.	9.0	69
17	Investigation of energy-efficient and sustainable reactive/pressure-swing distillation processes to recover tetrahydrofuran and ethanol from the industrial effluent. <i>Separation and Purification Technology</i> , 2020, 250, 117210.	7.9	60
18	Design and control of vapor recompression assisted extractive distillation for separating n-hexane and ethyl acetate. <i>Separation and Purification Technology</i> , 2020, 240, 116655.	7.9	60

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19	Stakeholder-oriented multi-objective process optimization based on an improved genetic algorithm. <i>Computers and Chemical Engineering</i> , 2020, 132, 106618.	3.8	58
20	Energy-efficient extractive pressure-swing distillation for separating binary minimum azeotropic mixture dimethyl carbonate and ethanol. <i>Separation and Purification Technology</i> , 2019, 229, 115817.	7.9	57
21	Extension of Thermodynamic Insights on Batch Extractive Distillation to Continuous Operation. 1. Azeotropic Mixtures with a Heavy Entrainer. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 4606-4622.	3.7	56
22	Optimal Design and Effective Control of the <i>tert</i> -Amyl Methyl Ether Production Process Using an Integrated Reactive Dividing Wall and Pressure Swing Columns. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 14565-14581.	3.7	52
23	Improved Design and Optimization for Separating Azeotropes with Heavy Component as Distillate through Energy-Saving Extractive Distillation by Varying Pressure. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 9156-9166.	3.7	51
24	The separation of ternary azeotropic mixture: Thermodynamic insight and improved multi-objective optimization. <i>Energy</i> , 2020, 206, 118117.	8.8	51
25	Improved design and optimization for separating tetrahydrofuran-water azeotrope through extractive distillation with and without heat integration by varying pressure. <i>Chemical Engineering Research and Design</i> , 2018, 133, 303-313.	5.6	50
26	Life Cycle Sustainability Assessment of Chemical Processes: A Vector-Based Three-Dimensional Algorithm Coupled with AHP. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 11216-11227.	3.7	49
27	Sustainable design and multi-objective optimization of eco-efficient extractive distillation with single and double entrainer(s) for separating the ternary azeotropic mixture tetrahydrofuran/ethanol/methanol. <i>Separation and Purification Technology</i> , 2022, 285, 120413.	7.9	49
28	Proportional-Integral Control and Model Predictive Control of Extractive Dividing-Wall Column Based on Temperature Differences. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 10572-10590.	3.7	48
29	Extension of Thermodynamic Insights on Batch Extractive Distillation to Continuous Operation. 2. Azeotropic Mixtures with a Light Entrainer. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 4623-4637.	3.7	44
30	Comparative optimal design and control of two alternative approaches for separating heterogeneous mixtures isopropyl alcohol-isopropyl acetate-water with four azeotropes. <i>Separation and Purification Technology</i> , 2019, 225, 1-17.	7.9	44
31	Dynamic controllability investigation of an energy-saving double side-stream ternary extractive distillation process. <i>Separation and Purification Technology</i> , 2019, 225, 41-53.	7.9	43
32	Energy-efficient recovery of tetrahydrofuran and ethyl acetate by triple-column extractive distillation: entrainer design and process optimization. <i>Frontiers of Chemical Science and Engineering</i> , 2022, 16, 303-315.	4.4	42
33	Improved process design and optimization of 200 kt/a ethylene glycol production using coal-based syngas. <i>Chemical Engineering Research and Design</i> , 2018, 132, 551-563.	5.6	40
34	High-efficiency utilization of CO ₂ in the methanol production by a novel parallel-series system combining steam and dry methane reforming. <i>Energy</i> , 2018, 158, 820-829.	8.8	40
35	Advanced exergy analysis of organic Rankine Cycles for Fischer-Tropsch syngas production with parallel dry and steam methane reforming. <i>Energy Conversion and Management</i> , 2019, 199, 111963.	9.2	40
36	Exergy analyses of biogas production from microalgae biomass via anaerobic digestion. <i>Bioresource Technology</i> , 2019, 289, 121709.	9.6	39

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37	Design and optimization of the efficient extractive distillation process for separating the binary azeotropic mixture methanol-acetone based on the quantum chemistry and conceptual design. Separation and Purification Technology, 2020, 242, 116829.	7.9	39
38	Process Development, Assessment, and Control of Reactive Dividing-Wall Column with Vapor Recompression for Producing <i>n</i> -Propyl Acetate. Industrial & Engineering Chemistry Research, 2019, 58, 276-295.	3.7	37
39	Intensified <i>p</i> -Xylene Production Process through Toluene and Methanol Alkylation. Industrial & Engineering Chemistry Research, 2018, 57, 12829-12841.	3.7	31
40	Design and control of an energy-efficient alternative process for the separation of methanol/toluene/water ternary azeotropic mixture. Separation and Purification Technology, 2018, 207, 489-497.	7.9	30
41	The process control of the triple-column pressure-swing extractive distillation with partial heat integration. Separation and Purification Technology, 2020, 238, 116416.	7.9	30
42	Entropy Flow and Energy Efficiency Analysis of Extractive Distillation with a Heavy Entrainer. Industrial & Engineering Chemistry Research, 2014, 53, 4778-4791.	3.7	29
43	A novel unambiguous strategy of molecular feature extraction in machine learning assisted predictive models for environmental properties. Green Chemistry, 2020, 22, 3867-3876.	9.0	29
44	Intensification and performance assessment for synthesis of 2-methoxy-2-methyl-heptane through the combined use of different pressure thermally coupled reactive distillation and heat integration technique. Chemical Engineering and Processing: Process Intensification, 2019, 142, 107561.	3.6	28
45	Multidimension Insight Involving Experimental and in Silico Investigation into the Corrosion Inhibition of <i>N,N</i> -Dibenzyl Dithiocarbamate Acid on Copper in Sulfuric Acid Solution. Industrial & Engineering Chemistry Research, 2019, 58, 7166-7178.	3.7	28
46	Application of retrofitted design and optimization framework based on the exergy analysis to a crude oil distillation plant. Applied Thermal Engineering, 2019, 154, 637-649.	6.0	28
47	Extractive distillation: recent advances in operation strategies. Reviews in Chemical Engineering, 2015, 31, .	4.4	26
48	Technology selection for sustainable hydrogen production: A multi-criteria assessment framework under uncertainties based on the combined weights and interval best-worst projection method. International Journal of Hydrogen Energy, 2020, 45, 34396-34411.	7.1	26
49	Developing a novel gasification-based sludge-to-methanol utilization process and exergy-economic-environmental (3E) analysis. Energy Conversion and Management, 2022, 260, 115600.	9.2	26
50	Improved design of heat-pump extractive distillation based on the process optimization and multi-criteria sustainability analysis. Computers and Chemical Engineering, 2022, 156, 107552.	3.8	25
51	Aluminum extraction technologies from high aluminum fly ash. Reviews in Chemical Engineering, 2021, 37, 885-906.	4.4	23
52	Technical-environmental assessment of CO ₂ conversion process to dimethyl carbonate/ethylene glycol. Journal of Cleaner Production, 2021, 288, 125598.	9.3	23
53	Dynamic study in enhancing the controllability of an energy-efficient double side-stream ternary extractive distillation of acetonitrile/methanol/benzene with three azeotropes. Separation and Purification Technology, 2020, 242, 116830.	7.9	22
54	A systematic modeling methodology of deep neural network-based structure-property relationship for rapid and reliable prediction on flashpoints. AIChE Journal, 2022, 68, e17402.	3.6	22

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55	Message-passing neural network based multi-task deep-learning framework for COSMO-SAC based Γ -profile and VCOSMO prediction. <i>Chemical Engineering Science</i> , 2022, 254, 117624.	3.8	21
56	Energy Evaluation of Ethanol Dehydration with Glycol Mixture as Entrainer. <i>Chemical Engineering and Technology</i> , 2014, 37, 987-994.	1.5	20
57	Energy-efficient heterogeneous extractive distillation system for the separation of close-boiling cyclohexane/cyclohexene mixture. <i>Journal of the Taiwan Institute of Chemical Engineers</i> , 2018, 87, 26-35.	5.3	20
58	Optimal Design and Energy-Saving Investigation of the Triple CO ₂ Feeds for Methanol Production System by Combining Steam and Dry Methane Reforming. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 1596-1606.	3.7	20
59	Optimal Design and Economic Evaluation of Dividing-Wall Columns. <i>Chemical Engineering and Technology</i> , 2016, 39, 1077-1086.	1.5	19
60	Target localization optimization of a superstructure triple-column extractive distillation with four-parallel evaporator organic Rankine cycles system based on advanced exergy analysis. <i>Separation and Purification Technology</i> , 2021, 272, 118894.	7.9	18
61	Novel Procedure for Assessment of Feasible Design Parameters of Dividing-Wall Columns: Application to Non-azeotropic Mixtures. <i>Industrial & Engineering Chemistry Research</i> , 2015, 54, 5307-5318.	3.7	17
62	Insights into ensemble learning-based data-driven model for safety-related property of chemical substances. <i>Chemical Engineering Science</i> , 2022, 248, 117219.	3.8	17
63	Gate-Embedding Strategy for Pore Size Manipulation on Stainless Steel Mesh: Toward Highly Efficient Water-in-Oil Nanoemulsions Separation. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 15288-15296.	3.7	16
64	Closed-loop identification and model predictive control of extractive dividing-wall column. <i>Chemical Engineering and Processing: Process Intensification</i> , 2019, 142, 107552.	3.6	16
65	An accurate and interpretable deep learning model for environmental properties prediction using hybrid molecular representations. <i>AIChE Journal</i> , 2022, 68, .	3.6	16
66	Toward a Sustainable Azeotrope Separation of Acetonitrile/Water by the Synergy of Ionic Liquid-Based Extractive Distillation, Heat Integration, and Multiobjective Optimization. <i>Industrial & Engineering Chemistry Research</i> , 2022, 61, 9833-9846.	3.7	15
67	An Improved Shortcut Design Method of Divided Wall Columns Exemplified by a Liquefied Petroleum Gas Process. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 9710-9720.	3.7	11
68	Control Study to Enhance the Controllability of Heterogeneous Extractive Distillation: Cyclohexane/Cyclohexene Separation. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 3211-3224.	3.7	11
69	An efficient technique for improving methanol yield using dual CO ₂ feeds and dry methane reforming. <i>Frontiers of Chemical Science and Engineering</i> , 2020, 14, 614-628.	4.4	11
70	Decision-Making for Sustainability Enhancement of Chemical Systems under Uncertainties: Combining the Vector-Based Multiattribute Decision-Making Method with Weighted Multiobjective Optimization Technique. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 12066-12079.	3.7	10
71	A multi-task deep learning neural network for predicting flammability-related properties from molecular structures. <i>Green Chemistry</i> , 2021, 23, 4451-4465.	9.0	9
72	Industrial system prioritization using the sustainability interval index conceptual framework with life cycle considerations. <i>AIChE Journal</i> , 2020, 66, e16961.	3.6	7

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73	Process analysis of pressure-swing distillation for the separation of formic acid-water mixture. Chemical Papers, 2021, 75, 599-609.	2.2	7
74	Efficient Electrochemical Reduction of CO ₂ to CO in Ionic Liquids. ChemistrySelect, 2021, 6, 9873-9879.	1.5	7
75	Metabolic engineering of Escherichia coli for polyamides monomer γ -valerolactam production from feedstock lysine. Applied Microbiology and Biotechnology, 2020, 104, 9965-9977.	3.6	6
76	Improved Design of the Lurgi Reactor for Methanol Synthesis Industry. Chemical Engineering and Technology, 2018, 41, 2043-2052.	1.5	5
77	In Silico Modeling of a Novel Refrigeration Process of the Ammonia-water Falling-Film Absorption. Industrial & Engineering Chemistry Research, 2020, 59, 1362-1373.	3.7	5
78	Parametric optimization of packed bed for activated coal fly ash waste heat recovery using CFD techniques. Chinese Journal of Chemical Engineering, 2020, 28, 518-525.	3.5	4
79	An energy sustainable approach of heat-pump assisted azeotropic divided wall column based on the organic Rankine cycle. Brazilian Journal of Chemical Engineering, 2022, 39, 539-552.	1.3	4
80	Artificial intelligence in process systems engineering. , 2021, , 1-10.		2
81	Methods in sustainability science. , 2021, , 1-12.		1
82	Deep learning in QSPR modeling for the prediction of critical properties. , 2021, , 11-37.		1
83	Predictive deep learning models for environmental properties. , 2021, , 39-66.		0
84	Automated extraction of molecular features in machine learning-based environmental property prediction. , 2021, , 67-92.		0