

# Weifeng Shen

## List of Publications by Year in descending order

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84  
papers

3,236  
citations

94433

37  
h-index

161849

54  
g-index

84  
all docs

84  
docs citations

84  
times ranked

1193  
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	A systematic modeling methodology of deep neural network-based structure-property relationship for rapid and reliable prediction on flashpoints. <i>AIChE Journal</i> , 2022, 68, e17402.	3.6	22
3	Improved design of heat-pump extractive distillation based on the process optimization and multi-criteria sustainability analysis. <i>Computers and Chemical Engineering</i> , 2022, 156, 107552.	3.8	25
4	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
5	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
6	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
7	An accurate and interpretable deep learning model for environmental properties prediction using hybrid molecular representations. <i>AIChE Journal</i> , 2022, 68, .	3.6	16
8	An energy sustainable approach of heat-pump assisted azeotropic divided wall column based on the organic Rankine cycle. <i>Brazilian Journal of Chemical Engineering</i> , 2022, 39, 539-552.	1.3	4
9	Message-passing neural network based multi-task deep-learning framework for COSMO-SAC based $\log P$ -profile and $\log K_{ow}$ prediction. <i>Chemical Engineering Science</i> , 2022, 254, 117624.	3.8	21
10	Developing a novel gasification-based sludge-to-methanol utilization process and energy-economic-environmental (3E) analysis. <i>Energy Conversion and Management</i> , 2022, 260, 115600.	9.2	26
11	Toward a Sustainable Azeotrope Separation of Acetonitrile/Water by the Synergy of Ionic Liquid-Based Extractive Distillation, Heat Integration, and Multiobjective Optimization. <i>Industrial &amp; Engineering Chemistry Research</i> , 2022, 61, 9833-9846.	3.7	15
12	Aluminum extraction technologies from high aluminum fly ash. <i>Reviews in Chemical Engineering</i> , 2021, 37, 885-906.	4.4	23
13	Process analysis of pressure-swing distillation for the separation of formic acid-water mixture. <i>Chemical Papers</i> , 2021, 75, 599-609.	2.2	7
14	Methods in sustainability science. , 2021, , 1-12.		1
15	Predictive deep learning models for environmental properties. , 2021, , 39-66.		0
16	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
17	Automated extraction of molecular features in machine learning-based environmental property prediction. , 2021, , 67-92.		0
18	Deep learning in QSPR modeling for the prediction of critical properties. , 2021, , 11-37.		1

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19	Technical-environmental assessment of CO <sub>2</sub> conversion process to dimethyl carbonate/ethylene glycol. <i>Journal of Cleaner Production</i> , 2021, 288, 125598.	9.3	23
20	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
21	Artificial intelligence in process systems engineering. , 2021, , 1-10.		2
22	Efficient Electrochemical Reduction of CO <sub>2</sub> to CO in Ionic Liquids. <i>ChemistrySelect</i> , 2021, 6, 9873-9879.	1.5	7
23	Parametric optimization of packed bed for activated coal fly ash waste heat recovery using CFD techniques. <i>Chinese Journal of Chemical Engineering</i> , 2020, 28, 518-525.	3.5	4
24	Stakeholder-oriented multi-objective process optimization based on an improved genetic algorithm. <i>Computers and Chemical Engineering</i> , 2020, 132, 106618.	3.8	58
25	Technology selection for sustainable hydrogen production: A multi-criteria assessment framework under uncertainties based on the combined weights and interval best-worst projection method. <i>International Journal of Hydrogen Energy</i> , 2020, 45, 34396-34411.	7.1	26
26	Optimal Design and Energy-Saving Investigation of the Triple CO <sub>2</sub> Feeds for Methanol Production System by Combining Steam and Dry Methane Reforming. <i>Industrial &amp; Engineering Chemistry Research</i> , 2020, 59, 1596-1606.	3.7	20
27	An efficient technique for improving methanol yield using dual CO <sub>2</sub> feeds and dry methane reforming. <i>Frontiers of Chemical Science and Engineering</i> , 2020, 14, 614-628.	4.4	11
28	The process control of the triple-column pressure-swing extractive distillation with partial heat integration. <i>Separation and Purification Technology</i> , 2020, 238, 116416.	7.9	30
29	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
30	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
31	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
32	Metabolic engineering of <i>Escherichia coli</i> for polyamides monomer $\gamma$ -valerolactam production from feedstock lysine. <i>Applied Microbiology and Biotechnology</i> , 2020, 104, 9965-9977.	3.6	6
33	A novel unambiguous strategy of molecular feature extraction in machine learning assisted predictive models for environmental properties. <i>Green Chemistry</i> , 2020, 22, 3867-3876.	9.0	29
34	The separation of ternary azeotropic mixture: Thermodynamic insight and improved multi-objective optimization. <i>Energy</i> , 2020, 206, 118117.	8.8	51
35	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
36	Dynamic study in enhancing the controllability of an energy-efficient double side-stream ternary extractive distillation of acetonitrile/methanol/benzene with three azeotropes. <i>Separation and Purification Technology</i> , 2020, 242, 116830.	7.9	22

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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	Industrial system prioritization using the sustainabilityâ€intervalâ€index conceptual framework with lifeâ€cycle considerations. AIChE Journal, 2020, 66, e16961.	3.6	7
39	In Silico Modeling of a Novel Refrigeration Process of the Ammoniaâ€Water Falling-Film Absorption. Industrial & Engineering Chemistry Research, 2020, 59, 1362-1373.	3.7	5
40	Design and control of vapor recompression assisted extractive distillation for separating n-hexane and ethyl acetate. Separation and Purification Technology, 2020, 240, 116655.	7.9	60
41	Gate-Embedding Strategy for Pore Size Manipulation on Stainless Steel Mesh: Toward Highly Efficient Water-in-Oil Nanoemulsions Separation. Industrial & Engineering Chemistry Research, 2019, 58, 15288-15296.	3.7	16
42	Investigation of an energy-saving double-thermally coupled extractive distillation for separating ternary system benzene/toluene/cyclohexane. Energy, 2019, 186, 115756.	8.8	80
43	Energy-efficient extractive pressure-swing distillation for separating binary minimum azeotropic mixture dimethyl carbonate and ethanol. Separation and Purification Technology, 2019, 229, 115817.	7.9	57
44	Predictive deep learning models for environmental properties: the direct calculation of octanolâ€water partition coefficients from molecular graphs. Green Chemistry, 2019, 21, 4555-4565.	9.0	69
45	Exergy analyses of biogas production from microalgae biomass via anaerobic digestion. Bioresource Technology, 2019, 289, 121709.	9.6	39
46	Investigation of energy-saving azeotropic dividing wall column to achieve cleaner production via heat exchanger network and heat pump technique. Journal of Cleaner Production, 2019, 234, 410-422.	9.3	83
47	Advanced exergy analysis of organic Rankine Cycles for Fischer-Tropsch syngas production with parallel dry and steam methane reforming. Energy Conversion and Management, 2019, 199, 111963.	9.2	40
48	Multi-objective optimization of organic Rankine cycle system for the waste heat recovery in the heat pump assisted reactive dividing wall column. Energy Conversion and Management, 2019, 199, 112041.	9.2	76
49	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. Energy, 2019, 172, 320-332.	8.8	114
50	Comparative optimal design and control of two alternative approaches for separating heterogeneous mixtures isopropyl alcohol-isopropyl acetate-water with four azeotropes. Separation and Purification Technology, 2019, 225, 1-17.	7.9	44
51	Dynamic controllability investigation of an energy-saving double side-stream ternary extractive distillation process. Separation and Purification Technology, 2019, 225, 41-53.	7.9	43
52	Decision-Making for Sustainability Enhancement of Chemical Systems under Uncertainties: Combining the Vector-Based Multiattribute Decision-Making Method with Weighted Multiobjective Optimization Technique. Industrial & Engineering Chemistry Research, 2019, 58, 12066-12079.	3.7	10
53	An architecture of deep learning in QSPR modeling for the prediction of critical properties using molecular signatures. AIChE Journal, 2019, 65, e16678.	3.6	70
54	Closed-loop identification and model predictive control of extractive dividing-wall column. Chemical Engineering and Processing: Process Intensification, 2019, 142, 107552.	3.6	16

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55	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. <i>Chemical Engineering and Processing: Process Intensification</i> , 2019, 142, 107561.	3.6	28
56	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. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 7166-7178.	3.7	28
57	Application of retrofitted design and optimization framework based on the exergy analysis to a crude oil distillation plant. <i>Applied Thermal Engineering</i> , 2019, 154, 637-649.	6.0	28
58	Optimal Design and Effective Control of Triple-Column Extractive Distillation for Separating Ethyl Acetate/Ethanol/Water with Multi-azeotrope. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 7265-7283.	3.7	126
59	Control Study to Enhance the Controllability of Heterogeneous Extractive Distillation: Cyclohexane/Cyclohexene Separation. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 3211-3224.	3.7	11
60	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
61	Process Development, Assessment, and Control of Reactive Dividing-Wall Column with Vapor Recompression for Producing <i>n</i> -Propyl Acetate. <i>Industrial &amp; Engineering Chemistry Research</i> , 2019, 58, 276-295.	3.7	37
62	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
63	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
64	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
65	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
66	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 &amp; Engineering Chemistry Research</i> , 2018, 57, 8036-8056.	3.7	75
67	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
68	Intensified <i>p</i> -Xylene Production Process through Toluene and Methanol Alkylation. <i>Industrial &amp; Engineering Chemistry Research</i> , 2018, 57, 12829-12841.	3.7	31
69	High-efficiency utilization of CO <sub>2</sub> 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
70	Design and control of an energy-efficient alternative process for the separation of methanol/toluene/water ternary azeotropic mixture. <i>Separation and Purification Technology</i> , 2018, 207, 489-497.	7.9	30
71	Proportional-Integral Control and Model Predictive Control of Extractive Dividing-Wall Column Based on Temperature Differences. <i>Industrial &amp; Engineering Chemistry Research</i> , 2018, 57, 10572-10590.	3.7	48
72	Improved Design of the Lurgi Reactor for Methanol Synthesis Industry. <i>Chemical Engineering and Technology</i> , 2018, 41, 2043-2052.	1.5	5

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73	Life Cycle Sustainability Assessment of Chemical Processes: A Vector-Based Three-Dimensional Algorithm Coupled with AHP. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 11216-11227.	3.7	49
74	Improved Design and Optimization for Separating Azeotropes with Heavy Component as Distillate through Energy-Saving Extractive Distillation by Varying Pressure. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 9156-9166.	3.7	51
75	An Improved Shortcut Design Method of Divided Wall Columns Exemplified by a Liquefied Petroleum Gas Process. <i>Industrial &amp; Engineering Chemistry Research</i> , 2017, 56, 9710-9720.	3.7	11
76	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 &amp; Engineering Chemistry Research</i> , 2017, 56, 14565-14581.	3.7	52
77	Optimal Design and Economic Evaluation of Dividing-Wall Columns. <i>Chemical Engineering and Technology</i> , 2016, 39, 1077-1086.	1.5	19
78	Systematic design of an extractive distillation for maximum-boiling azeotropes with heavy entrainers. <i>AIChE Journal</i> , 2015, 61, 3898-3910.	3.6	106
79	Extractive distillation: recent advances in operation strategies. <i>Reviews in Chemical Engineering</i> , 2015, 31, .	4.4	26
80	Novel Procedure for Assessment of Feasible Design Parameters of Dividing-Wall Columns: Application to Non-azeotropic Mixtures. <i>Industrial &amp; Engineering Chemistry Research</i> , 2015, 54, 5307-5318.	3.7	17
81	Energy Evaluation of Ethanol Dehydration with Glycol Mixture as Entrainer. <i>Chemical Engineering and Technology</i> , 2014, 37, 987-994.	1.5	20
82	Entropy Flow and Energy Efficiency Analysis of Extractive Distillation with a Heavy Entrainer. <i>Industrial &amp; Engineering Chemistry Research</i> , 2014, 53, 4778-4791.	3.7	29
83	Extension of Thermodynamic Insights on Batch Extractive Distillation to Continuous Operation. 1. Azeotropic Mixtures with a Heavy Entrainer. <i>Industrial &amp; Engineering Chemistry Research</i> , 2013, 52, 4606-4622.	3.7	56
84	Extension of Thermodynamic Insights on Batch Extractive Distillation to Continuous Operation. 2. Azeotropic Mixtures with a Light Entrainer. <i>Industrial &amp; Engineering Chemistry Research</i> , 2013, 52, 4623-4637.	3.7	44