I-Lung Chien

List of Publications by Year
in descending order

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121 papers	3,437 citations	117453 34 h-index	174990 52 g-index
129 all docs	129 docs citations	129 times ranked	1806 citing authors

#	Article	IF	Citations
1	Design and Control of an Isopropyl Alcohol Dehydration Process via Extractive Distillation Using Dimethyl Sulfoxide as an Entrainer. Industrial & Engineering Chemistry Research, 2008, 47, 790-803.	1.8	142
2	Optimal Design and Effective Control of Triple-Column Extractive Distillation for Separating Ethyl Acetate/Ethanol/Water with Multiazeotrope. Industrial & Engineering Chemistry Research, 2019, 58, 7265-7283.	1.8	126
3	Design and Control of Dimethyl Carbonateâ˜Methanol Separation via Extractive Distillation in the Dimethyl Carbonate Reactive-Distillation Process. Industrial & Engineering Chemistry Research, 2010, 49, 735-749.	1.8	115
4	Critical Assessment of the Energy-Saving Potential of an Extractive Dividing-Wall Column. Industrial & Engineering Chemistry Research, 2013, 52, 5384-5399.	1.8	112
5	A Simple Multiloop Tuning Method for PID Controllers with No Proportional Kick. Industrial & Engineering Chemistry Research, 1999, 38, 1456-1468.	1.8	105
6	Design and control of acetic acid dehydration system via heterogeneous azeotropic distillation. Chemical Engineering Science, 2004, 59, 4547-4567.	1.9	97
7	Systematic approach for screening organic and ionic liquid solvents in homogeneous extractive distillation exemplified by the tert-butanol dehydration. Separation and Purification Technology, 2019, 211, 723-737.	3.9	84
8	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.	4.6	83
9	Investigation of an energy-saving double-thermally coupled extractive distillation for separating ternary system benzene/toluene/cyclohexane. Energy, 2019, 186, 115756.	4.5	80
10	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.	4.4	76
11	Energy-Saving Optimal Design and Effective Control of Heat Integration-Extractive Dividing Wall Column for Separating Heterogeneous Mixture Methanol/Toluene/Water with Multiazeotropes. Industrial & Engineering Chemistry Research, 2018, 57, 8036-8056.	1.8	75
12	Nonlinear identification and control of a high-purity distillation column: a case study. Journal of Process Control, 1995, 5, 149-162.	1.7	70
13	Energy-Saving Dividing-Wall Column Design and Control for Heterogeneous Azeotropic Distillation Systems. Industrial & Engineering Chemistry Research, 2014, 53, 1537-1552.	1.8	70
14	Simplified IMC-PID tuning rules. ISA Transactions, 1994, 33, 43-59.	3.1	66
15	Simple control method for integrating processes with long deadtime. Journal of Process Control, 2002, 12, 391-404.	1.7	62
16	Combined Preconcentrator/Recovery Column Design for Isopropyl Alcohol Dehydration Process. Industrial & Engineering Chemistry Research, 2007, 46, 2535-2543.	1.8	59
17	Simple PID Controller Tuning Method for Processes with Inverse Response Plus Dead Time or Large Overshoot Response Plus Dead Time. Industrial & Engineering Chemistry Research, 2003, 42, 4461-4477.	1.8	56
18	Design and Control of a Complete Heterogeneous Azeotropic Distillation Column System. Industrial & Engineering Chemistry Research, 2004, 43, 2160-2174.	1.8	56

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19	Design and Control of a Hybrid Extractionâ€“Distillation System for the Separation of Pyridine and Water. Industrial & Engineering Chemistry Research, 2015, 54, 7715-7727.	1.8	54
20	Efficient separation method for tert -butanol dehydration via extractive distillation. Journal of the Taiwan Institute of Chemical Engineers, 2017, 73, 27-36.	2.7	52
21	Design of a Complete Ethyl Acetate Reactive Distillation System.. Journal of Chemical Engineering of Japan, 2003, 36, 1352-1363.	0.3	50
22	Comparison of heteroazeotropic and extractive distillation for the dehydration of propylene glycol methyl ether. Chemical Engineering Research and Design, 2016, 111, 184-195.	2.7	48
23	Plant-Wide Economic Comparison of Lactic Acid Recovery Processes by Reactive Distillation with Different Alcohols. Industrial & Engineering Chemistry Research, 2013, 52, 11070-11083.	1.8	46
24	Design and optimization of dimethyl oxalate (DMO) hydrogenation process to produce ethylene glycol (EG). Chemical Engineering Research and Design, 2017, 121, 173-190.	2.7	44
25	Energy-Saving Designs for Separation of a Close-Boiling 1,2-Propanediol and Ethylene Glycol Mixture. Industrial & Engineering Chemistry Research, 2015, 54, 3828-3843.	1.8	43
26	Design and Control of Thermally Coupled Reactive Distillation for the Production of Isopropyl Acetate. Industrial & Engineering Chemistry Research, 2012, 51, 11753-11763.	1.8	40
27	Critical Assessment of Using an Ionic Liquid as Entrainer via Extractive Distillation. Industrial & Engineering Chemistry Research, 2017, 56, 7768-7782.	1.8	40
28	High-efficiency utilization of CO2 in the methanol production by a novel parallel-series system combining steam and dry methane reforming. Energy, 2018, 158, 820-829.	4.5	40
29	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.	4.4	40
30	Design and control of butyl acrylate reactive distillation column system. Chemical Engineering Science, 2006, 61, 4417-4431.	1.9	39
31	Design and Control of Reactive Distillation System for Esterification of Levulinic Acid and n-Butanol. Industrial & Engineering Chemistry Research, 2015, 54, 3341-3354.	1.8	36
32	Intensified hybrid reactive-extractive distillation process for the separation of water-containing ternary mixtures. Separation and Purification Technology, 2021, 279, 119712.	3.9	36
33	Control of reactive distillation process for production of ethyl acetate. Journal of Process Control, 2007, 17, 363-377.	1.7	34
34	Reactive Distillation for Esterification of an Alcohol Mixture Containing n-Butanol and n-Amyl Alcohol. Industrial & Engineering Chemistry Research, 2009, 48, 7186-7204.	1.8	34
35	Design and control of reactive-distillation process for the production of diethyl carbonate via two consecutive trans-esterification reactions. Journal of Process Control, 2011, 21, 1193-1207.	1.7	34
36	Assessment on CO₂ Utilization through Rigorous Simulation: Converting CO₂ to Dimethyl Carbonate. Industrial & Engineering Chemistry Research, 2018, 57, 639-652.	1.8	34

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37	Gage control of film and sheet-forming processes. AICHE Journal, 1996, 42, 753-766.	1.8	32
38	Reactive-Distillation Process for Direct Hydration of Cyclohexene to Produce Cyclohexanol. Industrial & Engineering Chemistry Research, 2014, 53, 7079-7086.	1.8	32
39	Design, control and comparison of fixed-bed methanation reactor systems for the production of substitute natural gas. Journal of the Taiwan Institute of Chemical Engineers, 2014, 45, 2346-2357.	2.7	31
40	Operation and control of batch extractive distillation for the separation of mixtures with minimum-boiling azeotrope. Journal of the Taiwan Institute of Chemical Engineers, 2007, 38, 371-383.	1.4	30
41	Design and Control of Heterogeneous Azeotropic Column System for the Separation of Pyridine and Water. Industrial & Engineering Chemistry Research, 2009, 48, 10564-10576.	1.8	30
42	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.	3.9	30
43	Design and Control of a Heat-Integrated Reactive Distillation System for the Hydrolysis of Methyl Acetate. Industrial & Engineering Chemistry Research, 2010, 49, 7398-7411.	1.8	29
44	Design and Control of Thermally-Coupled Reactive Distillation System for Esterification of an Alcohol Mixture Containing n-Amyl Alcohol and n-Hexanol. Industrial & Engineering Chemistry Research, 2013, 52, 17184-17197.	1.8	29
45	Design and Economic Evaluation of a Coal-Based Polygeneration Process To Coproduce Synthetic Natural Gas and Ammonia. Industrial & Engineering Chemistry Research, 2015, 54, 10073-10087.	1.8	28
46	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.	1.8	28
47	Energy-Efficient Extractionâ€“Distillation Process for Separating Diluted Acetonitrileâ€“Water Mixture: Rigorous Design with Experimental Verification from Ternary Liquidâ€“Liquid Equilibrium Data. Industrial & Engineering Chemistry Research, 2017, 56, 15112-15121.	1.8	27
48	Design and Control of the Glycerol Tertiary Butyl Ethers Process for the Utilization of a Renewable Resource. Industrial & Engineering Chemistry Research, 2011, 50, 12706-12716.	1.8	26
49	A SIMPLE METHOD FOR TUNING CASCADE CONTROL SYSTEMS. Chemical Engineering Communications, 1998, 165, 89-121.	1.5	25
50	Two-Stripper/Decanter Flowsheet for Methanol Recovery in the TAME Reactive-Distillation Process. Industrial & Engineering Chemistry Research, 2009, 48, 10532-10540.	1.8	24
51	CO₂ Utilization Feasibility Study: Dimethyl Carbonate Direct Synthesis Process with Dehydration Reactive Distillation. Industrial & Engineering Chemistry Research, 2020, 59, 1234-1248.	1.8	24
52	Coordinated control of blending systems. IEEE Transactions on Control Systems Technology, 1998, 6, 495-506.	3.2	23
53	Operation and decoupling control of a heterogeneous azeotropic distillatin column. Computers and Chemical Engineering, 2000, 24, 893-899.	2.0	23
54	Design and Control of Acetic Acid Dehydration Column withp-Xylene orm-Xylene Feed Impurity. 1. Importance of Feed Tray Location on the Process Design. Industrial & Engineering Chemistry Research, 2007, 46, 505-517.	1.8	23

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55	Investigating the need of a pre-concentrator column for acetic acid dehydration system via heterogeneous azeotropic distillation. Chemical Engineering Science, 2006, 61, 569-585.	1.9	22
56	Design and Economic Evaluation of a Coal-to-Synthetic Natural Gas Process. Industrial & Engineering Chemistry Research, 2015, 54, 2339-2352.	1.8	22
57	Influence of Feed Impurity on the Design and Operation of an Industrial Acetic Acid Dehydration Column. Industrial & Engineering Chemistry Research, 2005, 44, 3510-3521.	1.8	21
58	Potential for Significant Energy-Saving via Hybrid Extractionâ€“Distillation System: Design and Control of Separation Process for n-Propanol Dehydration. Industrial & Engineering Chemistry Research, 2016, 55, 11291-11304.	1.8	21
59	Dynamic simulation and operation of a high pressure ethylene-vinyl acetate (EVA) copolymerization autoclave reactor. Computers and Chemical Engineering, 2007, 31, 233-245.	2.0	20
60	Choice of suitable entrainer in heteroazeotropic batch distillation system for acetic acid dehydration. Journal of the Taiwan Institute of Chemical Engineers, 2008, 39, 503-517.	1.4	20
61	Energy-efficient heterogeneous extractive distillation system for the separation of close-boiling cyclohexane/cyclohexene mixture. Journal of the Taiwan Institute of Chemical Engineers, 2018, 87, 26-35.	2.7	20
62	Energy-efficient separation design of diisopropylether/isopropanol/water system having three distillation regions and liquid-liquid envelope. Separation and Purification Technology, 2020, 251, 117292.	3.9	20
63	Energy-efficient heterogeneous azeotropic distillation coupling with pressure swing distillation for the separation of IPA/DIPE/Water mixture. Journal of the Taiwan Institute of Chemical Engineers, 2022, 130, 103843.	2.7	20
64	Feed-splitting operating strategy of a reactive distillation column for energy-saving production of butyl propionate. Journal of the Taiwan Institute of Chemical Engineers, 2010, 41, 403-413.	2.7	18
65	Control of Highly Interconnected Reactive Distillation Processes: Purification of Raw Lactic Acid by Esterification and Hydrolysis. Industrial & Engineering Chemistry Research, 2015, 54, 6932-6940.	1.8	18
66	Self-tuning control with decoupling. AICHE Journal, 1987, 33, 1079-1088.	1.8	17
67	Design and Control of Ethanol/Benzene Separation by Energy-Saving Extractionâ€“Distillation Process Using Glycerol as an Effective Heavy Solvent. Industrial & Engineering Chemistry Research, 2019, 58, 14295-14311.	1.8	17
68	Design and control of an energy-efficient process for the separation of benzene/isopropanol/water ternary mixture. Separation and Purification Technology, 2021, 255, 117694.	3.9	17
69	Design and Optimization of the Methanolâ€toâ€Olefin Process. Part I: Steadyâ€State Design and Optimization. Chemical Engineering and Technology, 2016, 39, 2293-2303.	0.9	16
70	Energy-Saving Design and Control of a Methyl Methacrylate Separation Process. Industrial & Engineering Chemistry Research, 2016, 55, 3064-3074.	1.8	15
71	Process synthesis and plantwide control of intensified extractive distillation with preconcentration for separating the minimum-boiling azeotropes: A case study of acetonitrile dehydration. Separation and Purification Technology, 2022, 285, 120397.	3.9	15
72	Dynamic modeling and analyses of simultaneous saccharification and fermentation process to produce bio-ethanol from rice straw. Bioprocess and Biosystems Engineering, 2010, 33, 195-205.	1.7	14

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73	Development of a plant-wide Dimethyl Oxalate (DMO) synthesis process from syngas: Rigorous design and optimization. Computers and Chemical Engineering, 2018, 119, 85-100.	2.0	14
74	Design and Control of a Methyl Methacrylate Separation Process with a Middle Decanter. Industrial & Engineering Chemistry Research, 2011, 50, 4595-4607.	1.8	13
75	Design and control of a reactive-distillation process for esterification of an alcohol mixture containing ethanol and n-butanol. Computers and Chemical Engineering, 2013, 57, 63-77.	2.0	13
76	Fuzzy-Logic-Based Supervisor of Insulin Bolus Delivery for Patients with Type 1 Diabetes Mellitus. Industrial & Engineering Chemistry Research, 2013, 52, 1678-1690.	1.8	13
77	Unique Design Considerations for Maximum-Boiling Azeotropic Systems via Extractive Distillation: Acetone/Chloroform Separation. Industrial & Engineering Chemistry Research, 2018, 57, 12884-12894.	1.8	13
78	Improved design of separation system for the recovery of benzene and isopropanol from wastewater. Separation and Purification Technology, 2021, 260, 118227.	3.9	13
79	A novel energy-efficient process of converting CO2 to dimethyl ether with techno-economic and environmental evaluation. Chemical Engineering Research and Design, 2022, 177, 1-12.	2.7	13
80	Novel control strategy of intensified hybrid reactive-extractive distillation process for the separation of water-containing ternary mixtures. Separation and Purification Technology, 2022, 294, 121159.	3.9	13
81	Design and control of an ethyl acetate process: coupled reactor/column configuration. Journal of Process Control, 2005, 15, 435-449.	1.7	12
82	Design and Control of an Acetic Acid Dehydration Column with p-Xylene or m-Xylene Feed Impurity. 2. Bifurcation Analysis and Control. Industrial & Engineering Chemistry Research, 2008, 47, 3046-3059.	1.8	12
83	Design and Optimization of the Methanolâ€toâ€Olefin Process. Part II: Comparison of Different Methods for Propylene/Propane Separation. Chemical Engineering and Technology, 2016, 39, 2304-2311.	0.9	12
84	Multiple-model control strategy for a fed-batch high cell-density culture processing. Journal of Process Control, 2006, 16, 9-26.	1.7	11
85	Overall control strategy of a coupled reactor/columns process for the production of ethyl acrylate. Journal of Process Control, 2008, 18, 215-231.	1.7	11
86	Grade transition using dynamic neural networks for an industrial high-pressure ethyleneâ€“vinyl acetate (EVA) copolymerization process. Computers and Chemical Engineering, 2009, 33, 1371-1378.	2.0	11
87	Design and control of a biodiesel production process using sugar catalyst for oil feedstock with different free fatty acid concentrations. Journal of the Taiwan Institute of Chemical Engineers, 2014, 45, 76-84.	2.7	11
88	Improved Design and Control of Triacetin Reactive Distillation Process for the Utilization of Glycerol. Industrial & Engineering Chemistry Research, 2014, 53, 11989-12002.	1.8	11
89	Control Study to Enhance the Controllability of Heterogeneous Extractive Distillation: Cyclohexane/Cyclohexene Separation. Industrial & Engineering Chemistry Research, 2019, 58, 3211-3224.	1.8	11
90	Technical and economic evaluation of triethylene glycol regeneration process using flash gas as stripping gas in a domestic natural gas dehydration unit. Engineering Reports, 2020, 2, e12153.	0.9	11

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91	Investigation of the Energy-Saving Design of an Industrial 1,4-Dioxane Dehydration Process with Light Feed Impurity. Industrial & Engineering Chemistry Research, 2014, 53, 15667-15685.	1.8	10
92	Rigorous Design and Optimization of Methyl Glycolate Production Process through Reactive Distillation Combined with a Middle Dividing-Wall Column. Industrial & Engineering Chemistry Research, 2019, 58, 5215-5227.	1.8	10
93	A SIMPLE TITO PI TUNING METHOD SUITABLE FOR INDUSTRIAL APPLICATIONS. Chemical Engineering Communications, 2000, 182, 181-196.	1.5	9
94	DESIGN AND CONTROL OF POLY(OXYMETHYLENE) DIMETHYL ETHERS PRODUCTION PROCESS DIRECTLY FROM FORMALDEHYDE AND METHANOL IN AQUEOUS SOLUTIONS. IFAC-PapersOnLine, 2018, 51, 578-583.	0.5	7
95	IDENTIFICATION OF TRANSFER FUNCTION MODELS FROM THE RELAY FEEDBACK TEST. Chemical Engineering Communications, 2000, 180, 231-253.	1.5	6
96	A Hybrid Neural Network Model Predictive Control with Zone Penalty Weights for Type 1 Diabetes Mellitus. Industrial & Engineering Chemistry Research, 2012, 51, 9041-9060.	1.8	6
97	Design of a complete ethyl acetate reactive distillation column system. Computer Aided Chemical Engineering, 2003, 15, 1044-1049.	0.3	5
98	Energy-efficient design of extraction-distillation process for 2,2,3,3-tetrafluoro-1-propanol/water separation with thermodynamically verified liquid-liquid and vapor-liquid equilibrium behaviors. Separation and Purification Technology, 2020, 238, 116447.	3.9	5
99	Novel Control Strategy for Maximum Boiling Extractive Distillation Systems: Acetone/Chloroform Separation. Industrial & Engineering Chemistry Research, 2020, 59, 8740-8756.	1.8	5
100	Arrangement of multi-sensor for spatio-temporal systems: application to sheet-forming processes. Chemical Engineering Science, 2001, 56, 5709-5717.	1.9	4
101	Design and control of a complete heterogeneous azeotropic distillation column system. Computer Aided Chemical Engineering, 2003, 15, 760-765.	0.3	4
102	Plant-Wide Control of a Complete Ethyl Acetate Reactive Distillation Process. Journal of Chemical Engineering of Japan, 2005, 38, 130-146.	0.3	4
103	Design and control of homogeneous and heterogeneous reactive distillation for ethyl acetate process. Computer Aided Chemical Engineering, 2006, 21, 1045-1050.	0.3	4
104	Improved operating policy utilizing aerobic operation for fermentation process to produce bio-ethanol. Biochemical Engineering Journal, 2012, 68, 178-189.	1.8	4
105	Modified control algorithms for patients with type 1 diabetes mellitus undergoing exercise. Journal of the Taiwan Institute of Chemical Engineers, 2014, 45, 2081-2095.	2.7	3
106	Energy-saving design and control of a hybrid extraction/distillation system for the separation of pyridine and water. Computer Aided Chemical Engineering, 2015, , 1121-1126.	0.3	3
107	Design and Economic Evaluation of Coal to Synthetic Natural Gas (SNG) Process. Computer Aided Chemical Engineering, 2015, 37, 1109-1114.	0.3	3
108	Design of Azeotropic Distillation Systems. , 2017, , 355-385.		3

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109	Improved Design of Maximum-Boiling Phenol/Cyclohexanone Separation with Experimentally Verified Vaporâ€“Liquid Equilibrium Behaviors. Industrial & Engineering Chemistry Research, 2020, 59, 6007-6020.	1.8	3
110	Importance of the selection of feed tray location on the optimum design of a heterogeneous azeotropic distillation column with p-xylene feed impurity. Computer Aided Chemical Engineering, 2006, , 997-1002.	0.3	2
111	Method for obtaining an empirical microbial growth model via chemostat operation. Journal of the Taiwan Institute of Chemical Engineers, 2010, 41, 421-433.	2.7	2
112	Bifurcation in the Reactive Distillation for Ethyl Acetate at Lower Murphree Plate Efficiency. Journal of Chemical Engineering of Japan, 2006, 39, 642-651.	0.3	2
113	Design sensor trajectory for control: Application to sheet-forming processes. AICHE Journal, 2000, 46, 1581-1592.	1.8	1
114	Reply to â€œComments on simple control method for integrating processes with long deadtimeâ€• Journal of Process Control, 2003, 13, 365.	1.7	1
115	Using [EMIM][OAC] as entrainer for isopropyl alcohol dehydration via extractive distillation. , 2017, , .		1
116	Simulation and optimization of structured packing replacement in absorption column of natural gas dehydration unit using triethylene glycol (TEG). , 2017, , .		1
117	Process Simulation and Design of Acrylic Acid Production. , 2017, , 275-309.		1
118	Potentials for CO 2 Utilization: Diethyl Carbonate Synthesis from Propylene Oxide. Computer Aided Chemical Engineering, 2018, 44, 133-138.	0.3	1
119	Opportunities for Energy Savings in Azeotropic Separation Processes. Computer Aided Chemical Engineering, 2012, 31, 75-82.	0.3	0
120	Design and Control of a Reactive-Distillation Process for Esterifl cation of an Alcohol Mixture Containing Ethanol and n-Butanol. Computer Aided Chemical Engineering, 2012, , 1577-1581.	0.3	0
121	Rebuttal to the â€œComment on â€˜CO2 Utilization Feasibility Study: Dimethyl Carbonate Direct Synthesis Process with Dehydration Reactive Distillationâ€™â€• Industrial & Engineering Chemistry Research, 2020, 59, 15390-15391.	1.8	0