Ferenc Friedler

List of Publications by Year
in descending order

124 papers	2,929 citations	218677 26 h-index	182427 51 g-index
139 all docs	139 docs citations	139 times ranked	1326 citing authors

#	Article	IF	Citations
1	Multiple-solution heat exchanger network synthesis using P-HENS solver. Journal of the Taiwan Institute of Chemical Engineers, 2022, 130, 103859.	5.3	9
2	Case Study: Synthesis of a Production Process for Adipic Acid. , 2022, , 103-122.		0
3	Vehicle Model-Based Driving Strategy Optimization for Lightweight Vehicle. Energies, 2022, 15, 3631.	3.1	12
4	Conceptual Design of a Negative Emissions Polygeneration Plant for Multiperiod Operations Using P-Graph. Processes, 2021, 9, 233.	2.8	8
5	The Pâ€graph approach for systematic synthesis of wastewater treatment networks. AICHE Journal, 2021, 67, e17253.	3.6	4
6	Synthesis and Techno-Economic Analysis of Pyrolysis-Oil-Based Biorefineries Using P-Graph. Energy & Fuels, 2021, 35, 13159-13169.	5.1	12
7	Processing systems design considering resilience. Computer Aided Chemical Engineering, 2021, , 807-812.	0.5	2
8	Multiple-solution heat exchanger network synthesis for enabling the best industrial implementation. Energy, 2020, 208, 118330.	8.8	27
9	Modeling and Assessing Evacuation Route Plans by Resorting to the P-graph Framework. , 2020, , .		0
10	Socio-ecological network structures from process graphs. PLoS ONE, 2020, 15, e0232384.	2.5	10
11	Socio-ecological network structures from process graphs. , 2020, 15, e0232384.		0
12	Socio-ecological network structures from process graphs. , 2020, 15, e0232384.		0
13	Socio-ecological network structures from process graphs. , 2020, 15, e0232384.		0
14	Socio-ecological network structures from process graphs. , 2020, 15, e0232384.		0
15	Socio-ecological network structures from process graphs. , 2020, 15, e0232384.		0
16	Socio-ecological network structures from process graphs. , 2020, 15, e0232384.		0
17	Synthesis algorithms for the reliability analysis of processing systems. Central European Journal of Operations Research, 2019, 27, 573-595.	1.8	13
18	Prospects and challenges for chemical process synthesis with P-graph. Current Opinion in Chemical Engineering, 2019, 26, 58-64.	7.8	42

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19	Synthesis of heat integrated processing systems taking into account reliability. Energy, 2019, 181, 214-225.	8.8	7
20	Synthesis technology for failure analysis and corrective actions in process systems engineering. Computer Aided Chemical Engineering, 2019, 46, 1405-1410.	0.5	5
21	Generating Efficient Wastewater Treatment Networks: an integrated approach comprising of contaminant properties, technology suitability, plant design, and process optimization. Computer Aided Chemical Engineering, 2019, 46, 1603-1608.	0.5	10
22	Design and engineering of sustainable process systems and supply chains by the Pâ€graph framework. Environmental Progress and Sustainable Energy, 2018, 37, 624-636.	2.3	25
23	Processing Systems Synthesis with Embedded Reliability Consideration. Computer Aided Chemical Engineering, 2018, 43, 869-874.	0.5	3
24	Synthesis and Analysis of Process Networks by Joint Application of P-graphs and Petri Nets. Lecture Notes in Computer Science, 2017, , 309-329.	1.3	4
25	Concept interfaces as bridges between clean technology and policy research disciplines. Clean Technologies and Environmental Policy, 2017, 19, 2179-2180.	4.1	0
26	Challenges and Potentials of Modelling Tools Total Site Integration and Utility System Optimisation. Computer Aided Chemical Engineering, 2017, 40, 2545-2550.	0.5	1
27	Synthesis of multiple biomass corridor via decomposition approach: aÂP-graph application. Journal of Cleaner Production, 2016, 130, 45-57.	9.3	42
28	Identifying evacuation routes via the P-graph methodology. , 2015, , .		2
29	Designing sustainable energy supply chains by the P-graph method for minimal cost, environmental burden, energy resources input. Journal of Cleaner Production, 2015, 94, 144-154.	9.3	49
30	Process synthesis involving multi-period operations by the P-graph framework. Computers and Chemical Engineering, 2015, 83, 157-164.	3.8	41
31	Designing Energy Supply Chains with the P-graph Framework under Cost Constraints and Sustainability Considerations. Computer Aided Chemical Engineering, 2014, 33, 1009-1014.	0.5	5
32	Modeling Multi-period Operations using the Pâ€“graph Methodology. Computer Aided Chemical Engineering, 2014, 33, 979-984.	0.5	5
33	Relationship between extreme pathways and structurally minimal pathways. Bioprocess and Biosystems Engineering, 2013, 36, 1199-1203.	3.4	2
34	Building-evacuation-route planning via time-expanded process-network synthesis. Fire Safety Journal, 2013, 61, 338-347.	3.1	18
35	Design of nonconventional processes. Current Opinion in Chemical Engineering, 2013, 2, 433-434.	7.8	1
36	Preface to L. T. Fan Festschrift. Industrial & Engineering Chemistry Research, 2013, 52, 1-4.	3.7	15

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37	Energy Generation and Carbon Footprint of Waste to Energy. Computer Aided Chemical Engineering, 2012, 31, 1402-1406.	0.5	7
38	Process systems engineering. Current Opinion in Chemical Engineering, 2012, 1, 418-420.	7.8	2
39	Exhaustive Identification of Feasible Pathways of the Reaction Catalyzed by a Catalyst with Multiactive Sites via a Highly Effective Graph-Theoretic Algorithm: Application to Ethylene Hydrogenation. Industrial & Engineering Chemistry Research, 2012, 51, 2548-2552.	3.7	8
40	Synthesis of Sustainable Energy Supply Chain by the P-graph Framework. Industrial & Engineering Chemistry Research, 2012, , 121115104836000.	3.7	9
41	Combinatorial Algorithm for Synthesizing Redundant Structures to Increase Reliability of Supply Chains: Application to Biodiesel Supply. Industrial & Engineering Chemistry Research, 2012, , 121029141124003.	3.7	4
42	On the equivalence of direct mechanisms and structurally minimal pathways. Journal of Mathematical Chemistry, 2012, 50, 1347-1361.	1.5	2
43	P-graph methodology for cost-effective reduction of carbon emissions involving fuel cell combined cycles. , 2011, , .		0
44	Combinatorial Algorithms of the S-Graph Framework for Batch Scheduling. Industrial & Engineering Chemistry Research, 2011, 50, 5169-5174.	3.7	5
45	The role of energy consumption in batch process scheduling. Computer Aided Chemical Engineering, 2011, 29, 1979-1983.	0.5	1
46	Solving vehicle assignment problems by process-network synthesis to minimize cost and environmental impact of transportation. Clean Technologies and Environmental Policy, 2011, 13, 637-642.	4.1	26
47	Cell-based dynamic heat exchanger modelsâ€"Direct determination of the cell number and size. Computers and Chemical Engineering, 2011, 35, 943-948.	3.8	16
48	Superstructure Approach to Batch Process Scheduling by S-graph Representation. Computer Aided Chemical Engineering, 2011, 29, 1105-1109.	0.5	4
49	Cell-based dynamic heat exchanger models - Direct determination of the cell number and size. Computer Aided Chemical Engineering, 2010, , 439-444.	0.5	1
50	Process integration, modelling and optimisation for energy saving and pollution reduction. Applied Thermal Engineering, 2010, 30, 2270-2280.	6.0	146
51	Using S-graph to address uncertainty in batch plants. Clean Technologies and Environmental Policy, 2010, 12, 105-115.	4.1	4
52	Graph-theoretic approach to the catalytic-pathway identification of methanol decomposition. Computers and Chemical Engineering, 2010, 34, 821-824.	3.8	10
53	Solution of separation-network synthesis problems by the P-graph methodology. Computers and Chemical Engineering, 2010, 34, 700-706.	3.8	33
54	Practical infeasibility of cross-transfer in batch plants with complex recipes: S-graph vs MILP methods. Chemical Engineering Science, 2009, 64, 605-610.	3.8	11

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55	Cleaner energy for sustainable future. Journal of Cleaner Production, 2009, 17, 889-895.	9.3	281
56	Reduced super-structure for a separation network comprising separators effected by different methods of separation. Computers and Chemical Engineering, 2009, 33, 687-698.	3.8	7
57	Generation of light hydrocarbons through Fischerâ€“Tropsch synthesis: Identification of potentially dominant catalytic pathways via the graphâ€“theoretic method and energetic analysis. Computers and Chemical Engineering, 2009, 33, 1182-1186.	3.8	32
58	Design of Optimal and Near-Optimal Enterprise-Wide Supply Networks for Multiple Products in the Process Industry. Industrial & Engineering Chemistry Research, 2009, 48, 2003-2008.	3.7	11
59	Solution of separation network synthesis problems by the P-graph methodology. Computer Aided Chemical Engineering, 2009, , 641-646.	0.5	1
60	Mathematical Modeling in Process Design and Operation. , 2009, , 1093-1101.		0
61	Effective scheduling of a large-scale paint production system. Journal of Cleaner Production, 2008, 16, 225-232.	9.3	22
62	Graph-theoretic and energetic exploration of catalytic pathways of the water-gas shift reaction. Journal of the Taiwan Institute of Chemical Engineers, 2008, 39, 467-473.	1.4	14
63	P-graph methodology for cost-effective reduction of carbon emissions involving fuel cell combined cycles. Applied Thermal Engineering, 2008, 28, 2020-2029.	6.0	50
64	PRES 2006â€”Energy resources and management: Heat integration, heat pumps, emissions and waste to energy. Energy, 2008, 33, 837-841.	8.8	15
65	Catalytic Pathways Identification for Partial Oxidation of Methanol on Copperâ€“Zinc Catalysts:Â CH3OH + 1/2O2â† CO2+ 2H2. Industrial & Engineering Chemistry Research, 2008, 47, 2523-2527.	3.7	18
66	Price-Targeting Through Iterative Flowsheet Syntheses in Developing Novel Processing Equipment:â€‰ Pervaporation. Industrial & Engineering Chemistry Research, 2008, 47, 1556-1561.	3.7	9
67	Modelling and optimisation tools for water minimisation in the food industry. , 2008, , 200-220.		0
68	Graph-theoretic approach to optimal synthesis of supply networks: Distribution of gasoline from a refinery. Computer Aided Chemical Engineering, 2008, 25, 247-252.	0.5	5
69	Integration of fuel cells into combined power cycles. Computer Aided Chemical Engineering, 2007, , 1089-1094.	0.5	0
70	An automated algorithm for throughput maximization under fixed time horizon in multipurpose batch plants: S-Graph approach. Computer Aided Chemical Engineering, 2007, , 649-654.	0.5	3
71	Novel energy saving technologies evaluation tool. Computer Aided Chemical Engineering, 2007, 24, 1035-1040.	0.5	3
72	Assessment of Sustainability-Potential:Â Hierarchical Approach. Industrial & Engineering Chemistry Research, 2007, 46, 4506-4516.	3.7	13

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73	Algorithmic synthesis of an optimal separation network comprising separators of different classes. Chemical Engineering and Processing: Process Intensification, 2007, 46, 656-665.	3.6	14
74	Comment on: An improved microkinetic model for the waterâ€“gas shift reaction on copper [Surf. Sci. 541 (2003) 21â€“30]. Surface Science, 2007, 601, 2401-2405.	1.9	5
75	Maximization of Throughput in a Multipurpose Batch Plant under a Fixed Time Horizon:â€‰ S-graph Approach. Industrial & Engineering Chemistry Research, 2006, 45, 6713-6720.	3.7	17
76	Holistic Approach to Process Retrofitting:Â Application to Downstream Process for Biochemical Production of Organics. Industrial & Engineering Chemistry Research, 2006, 45, 4200-4207.	3.7	31
77	Network synthesis for a district energy system: a step towards sustainability. Computer Aided Chemical Engineering, 2006, 21, 1869-1874.	0.5	7
78	Rigorous scheduling resolution of complex multipurpose batch plants: S-Graph vs. MILP. Computer Aided Chemical Engineering, 2006, 21, 2033-2038.	0.5	0
79	Recent novel developments in heat integrationâ€”total site, trigeneration, utility systems and cost-effective decarbonisation.. Applied Thermal Engineering, 2005, 25, 953-960.	6.0	28
80	Complementary identification of multiple flux distributions and multiple metabolic pathways. Metabolic Engineering, 2005, 7, 182-200.	7.0	38
81	Integrated Synthesis of Optimal Separation and Heat Exchanger Networks Involving Separations Based on Various Properties. Heat Transfer Engineering, 2005, 26, 25-41.	1.9	9
82	Graphâ€theoretic approach for identifying catalytic or metabolic pathways. Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers,Series A/Chung-kuo Kung Ch'eng Hsuch K'an, 2005, 28, 1021-1037.	1.1	11
83	Downstream Process Synthesis for Biochemical Production of Butanol, Ethanol, and Acetone from Grains: Generation of Optimal and Near-Optimal Flowsheets with Conventional Operating Units. Biotechnology Progress, 2004, 20, 1518-1527.	2.6	66
84	Scheduling intermediate storage multipurpose batch plants using the S-graph. AICHE Journal, 2004, 50, 403-417.	3.6	24
85	Incorporating heat integration in batch process scheduling. Applied Thermal Engineering, 2003, 23, 1743-1762.	6.0	76
86	Graph-Theoretic Method for the Algorithmic Synthesis of Azeotropic-Distillation Systems. Industrial & Engineering Chemistry Research, 2003, 42, 3602-3611.	3.7	29
87	A New Framework for Batch Process Optimization Using the Flexible Recipe. Industrial & Engineering Chemistry Research, 2003, 42, 370-379.	3.7	19
88	Combinatorial framework for effective scheduling of multipurpose batch plants. AICHE Journal, 2002, 48, 2557-2570.	3.6	53
89	Optimal retrofit design and operation of the steam-supply system of a chemical complex. Applied Thermal Engineering, 2002, 22, 939-947.	6.0	15
90	A graph-theoretic method to identify candidate mechanisms for deriving the rate law of a catalytic reaction. Computers & Chemistry, 2002, 26, 265-292.	1.2	53

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91	An accelerated Branch-and-Bound algorithm for assignment problems of utility systems. Computers and Chemical Engineering, 2002, 26, 617-630.	3.8	3
92	BPM Based Robust E-business Application Development. Lecture Notes in Computer Science, 2002, , 32-43.	1.3	2
93	An accelerated branch-and-bound algorithm for assignment problems of utility systems. Computer Aided Chemical Engineering, 2001, 9, 541-546.	0.5	0
94	Retrofit design of chemical processing networks under uncertainties: Application to petrochemical industry. Computer Aided Chemical Engineering, 2001, 9, 547-552.	0.5	1
95	Graph-theoretical identification of pathways for biochemical reactions. Biotechnology Letters, 2001, 23, 1551-1557.	2.2	45
96	Integrated synthesis of process and heat exchanger networks: algorithmic approach. Applied Thermal Engineering, 2001, 21, 1407-1427.	6.0	43
97	Systematic generation of the optimal and alternative flowsheets for azeotropic-distillation systems. Computer Aided Chemical Engineering, 2001, 9, 351-356.	0.5	4
98	Customized solvers for the operational planning and scheduling of utility systems. Computers and Chemical Engineering, 2000, 24, 487-493.	3.8	4
99	Separation-network synthesis: global optimum through rigorous super-structure. Computers and Chemical Engineering, 2000, 24, 1881-1900.	3.8	36
100	Combinatorial foundation for logical formulation in process network synthesis. Computers and Chemical Engineering, 2000, 24, 1859-1864.	3.8	21
101	Synthesizing alternative sequences via a P-graph-based approach in azeotropic distillation systems. Waste Management, 2000, 20, 639-643.	7.4	19
102	Identifying Operating Units for the Design and Synthesis of Azeotropic-Distillation Systems. Industrial & Engineering Chemistry Research, 2000, 39, 175-184.	3.7	13
103	Exact super-structure for the synthesis of separation-networks with multiple feed-streams and sharp separators. Computers and Chemical Engineering, 1999, 23, S1007-S1010.	3.8	6
104	Process network synthesis: Problem definition. Networks, 1998, 31, 119-124.	2.7	46
105	A combinatorial approach for generating candidate molecules with desired properties based on group contribution. Computers and Chemical Engineering, 1998, 22, 809-817.	3.8	20
106	Combinatorial technique for short term scheduling of multipurpose batch plants based on schedule-graph representation. Computers and Chemical Engineering, 1998, 22, S847-S850.	3.8	26
107	Process network synthesis: Problem definition. , 1998, 31, 119.		1
108	An Algorithm for Improving the Bounding Procedure in Solving Process Network Synthesis by a Branch-and-Bound Method. Nonconvex Optimization and Its Applications, 1997, , 315-348.	0.1	6

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109	Combinatorially Accelerated Branch-and-Bound Method for Solving the MIP Model of Process Network Synthesis. Nonconvex Optimization and Its Applications, 1996, , 609-626.	0.1	61
110	Decision-mapping: A tool for consistent and complete decisions in process synthesis. Chemical Engineering Science, 1995, 50, 1755-1768.	3.8	134
111	Parametric study of separation network synthesis: Extreme properties of optimal structures. Computers and Chemical Engineering, 1995, 19, 107-112.	3.8	4
112	Integrated synthesis of a process and its fault-tolerant control system. Computers and Chemical Engineering, 1995, 19, 465-470.	3.8	3
113	A GRAPH-THEORETIC APPROACH TO INTEGRATED PROCESS AND CONTROL SYSTEM SYNTHESIS. , 1994, , 61-66.		3
114	A graph-theoretic approach to integrated process and control system synthesis. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1994, 27, 61-66.	0.4	1
115	Recycling in a separation process structure. AICHE Journal, 1993, 39, 1087-1089.	3.6	15
116	Graph-theoretic approach to process synthesis: Polynomial algorithm for maximal structure generation. Computers and Chemical Engineering, 1993, 17, 929-942.	3.8	225
117	Combinatorial Technique for the Design and Synthesis of Large Scale Manufacturing Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 1993, 26, 561-564.	0.4	0
118	Combinatorial algorithms for process synthesis. Computers and Chemical Engineering, 1992, 16, S313-S320.	3.8	159
119	A simple approach for maximum heat recovery calculations. Chemical Engineering Science, 1992, 47, 1481-1494.	3.8	16
120	Graph-theoretic approach to process synthesis: axioms and theorems. Chemical Engineering Science, 1992, 47, 1973-1988.	3.8	304
121	Optimal design of multi-purpose batch chemical plants. Computers and Chemical Engineering, 1989, 13, 527-534.	3.8	4
122	Computerized generation of technological structures. Computers and Chemical Engineering, 1979, 3, 241-249.	3.8	9
123	Generating and Analyzing Mathematical Programming Models of Conceptual Process Design by P-graph Software. Industrial & Engineering Chemistry Research, 0, , 121029133233007.	3.7	5
124	Determination of the Thermodynamically Dominant Metabolic Pathways. Industrial & Engineering Chemistry Research, 0, , 120726092100004.	3.7	0